

American Aviation

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The Independent Voice of American Aeronautics
SEPTEMBER 15, 1944

The World Conference

Fortnightly Review

THE CALLING by the United States of an international conference on civil aviation November 1 comes with little advance warning. Such a conference has been long impending, and often anticipated, but the Department of State has moved with unexpected swiftness in calling the sessions for the near future.

The proposals set forth by the United States are ambitious and of very broad scope. One can only hope that the sessions will bring the broad results which everyone in this country desires.

Perhaps the most important feature of the proposals is that pertaining to the immediate establishment of air transport services through a provisional agreement. If this can be accomplished a great step forward will have been taken. Air services are needed in many parts of the world and the immediate operation of commercial routes will mean the earlier discontinuance of military operations.

It is not clear whether all of the fifty or more countries invited will be prepared to settle matters in detail, but even if preliminary agreements can be reached on principles of freedom of transit and on certain technical and other organizations, the conference will be worthwhile.

We earnestly hope the Department of State will open wide the conference to the press. The widest possible publicity must be given to all of the deliberations. Secrecy breeds suspicion and paves the way for behind-the-curtain understandings.

It is fitting that the United States should take the lead in calling the conference. This is the nation which has done most to develop the airplane and

(Turn to page 9)



TWA Vice President

John A. Collings has been named vice president-transportation to head TWA's newly created Transportation Department embracing all operating and service functions of the airline.

Late Bulletins

Rules May Relax

Repeal of all emergency regulations for private flying, except in vital defense zones and areas devoted largely to military operations, has been recommended by CAA Administrator Charles I. Stanton. Present regulations permit private flyers to land and take off only at designated fields.

Martin Promoted

Roy Martin, Superintendent of Air Mail for the Post Office Department, has been promoted to Deputy 2nd Assistant Postmaster General. His successor has not yet been chosen. Martin's promotion is seen as recognition by the Post Office Department of the increasing importance of air mail.

Trend of The News

Price Outlook: Although prices of many civilian goods after the war are expected to be higher than pre-war products because of labor and material costs, one factor tending to hold prices of aircraft from spiraling, manufacturers point out, is that the plane builders who were operating a comparatively young industry and not used to mass production before the war have learned much in the technique of mass production and methods that reduce unnecessary expenses. Improved scheduling of materials and manpower have greatly aided the plane industry. After the war a private plane will not be a custom-built machine. Manufacturers realize that cost will be an all-important factor in the possibility of mass sales of small planes.

Keen Interest: Indicative of the great interest to be exhibited in the CAB hearings for foreign routes has been the attention paid the hearing during the last fortnight on the applications for U. S.-to-Hawaii routes. Interest also was whetted by the presence among the applicants of a steamship company. Keen interest also is building up in the Caribbean hearing which will open Sept. 18. Several ship companies are scheduled to take an active part in the fight for the Latin American routes.

No Bed of Roses—The new Administrator of Civil Aeronautics, Ted Wright, is not going to lie in a bed of roses in his new post. It's probably the toughest job in aviation today. As one former CAA official expressed it, the Administrator has only one job and that's to say "no." He keeps on saying "no" until sometime somebody upstairs thinks he should have said "yes," and that's the end of the job. It's a good way to lose friends. On the other hand, Ted Wright knew what he was getting into and his friends are wishing him lots of luck. Although he wasn't happy about the change, Charlie Stanton is actually better off by stepping down to the deputy's job, for he's back on civil service status where he has more job security. The long-existent cordial breach between the CAA boys and Assistant Secretary of Commerce W. A. M. Burden won't be healed by putting Wright in between as a buffer. The CAA boys aren't very flexible; they like to run their own show by themselves. In the meantime the friction doesn't help aviation.

(Turn to page 6)



Teamwork for Touchdowns



Many a paratrooper learned years ago on the football field, that it takes teamwork to make touchdowns. That's one of the reasons for the spectacular successes scored by our Airborne Troops.

For although each paratrooper is a highly trained and skilled specialist with a definite and predetermined objective, all men in each unit work together as a team. That goes for their fighter plane escort as well. Each pilot is part of a protective team. All have a part in advancing the ball.

And that's equally true of America's aircraft industry. Individual company research, engineering, design, manufacturing and production techniques, testing methods, plant facilities, personnel, and specialized skills have been pooled into one great team—to work together to produce more planes and better planes—to hasten Victory.

At McDonnell, in addition to making planes and plastics for war, it has been our privilege to contribute substantially to the success of some of America's out-

standing planes, through the fabrication of vital parts and assemblies.

To mention only two—we have finished many, many thousands of *empennages*—complete tail assemblies—for that dependable work horse of the war, the twin motored Douglas ship known in its various versions as the C-53 Troop Carrier, the Navy RD4, and the C-47 Cargo Carrier—and many more thousands of *anti-drag ring cowls* for the famous Douglas A-20 Attack Bomber.

Other equally noteworthy production contracts on parts and assemblies are being executed—as well as research and development projects for the Army and Navy. Aircraft of our own design and manufacture represent another important phase of our activities—but for reasons of security, details concerning these projects cannot be disclosed at this time.

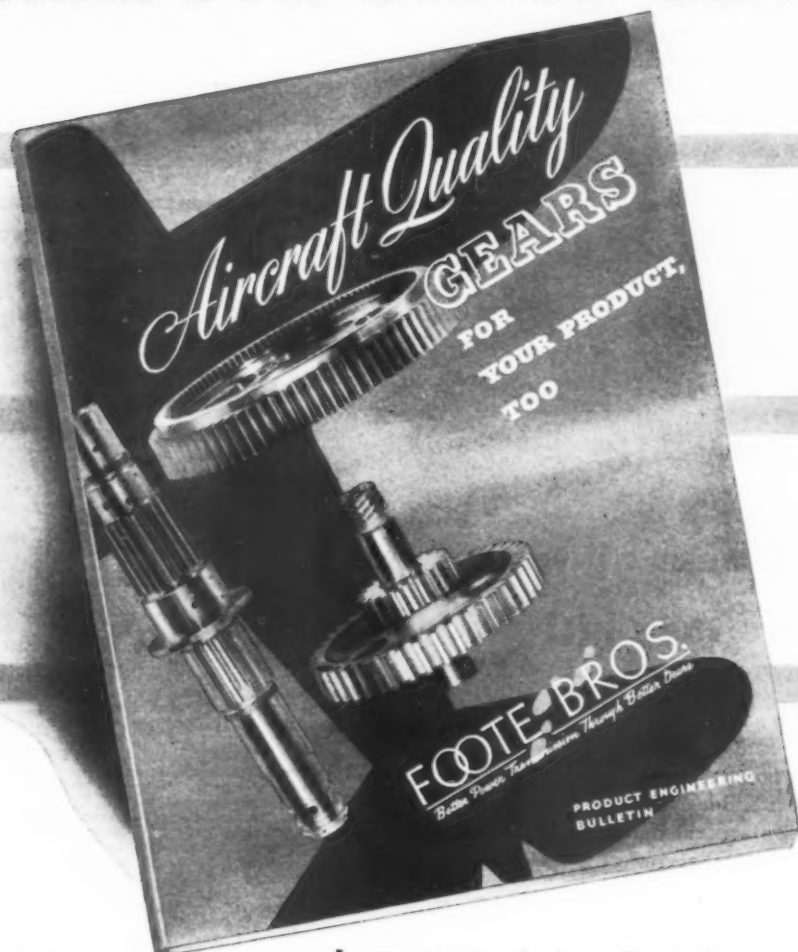
But until Victory comes—we're glad to work as part of a winning team—with Uncle Sam calling the signals.



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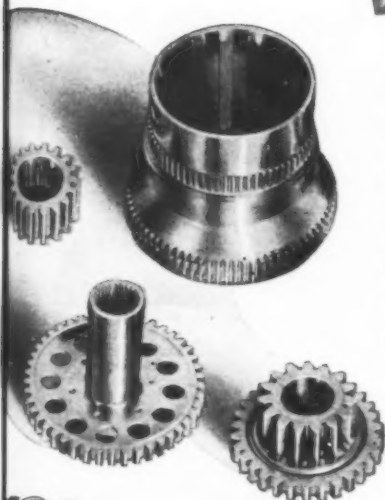
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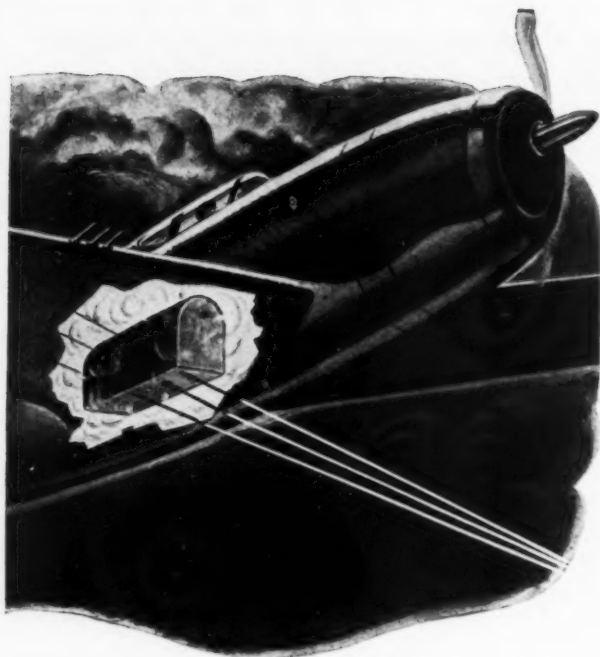
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The Independent Voice of American Aeronautics

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September 15, 1944

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World Conference in U. S. Nov. 1	17
Manufacturers Map Reconversion	19
3 Lines Order 96 Douglas Planes	21
Airlines' Profits Drop 2 Million	22
Swedes Convert 3 Fortresses	26
Here's What Public Wants!	47
V-Day Cutbacks Won't Hurt All	68

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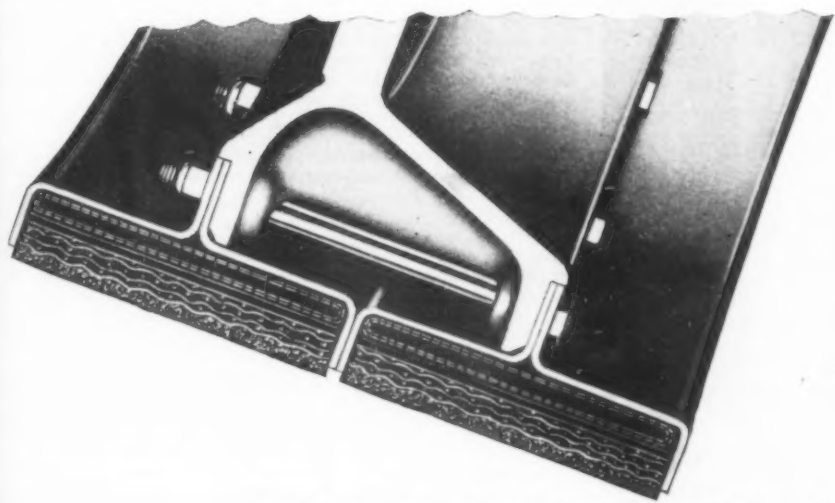
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(Continued from page 1)

Announcing THE NEW STAINLESS STEEL **WITTEK** WORM DRIVE HOSE CLAMP

This new Wittek Worm Drive Hose Clamp, approved by the Army Air Forces as meeting specification AN-FF-C-406A, offers distinct advantages to the aviation industry. It is made entirely of stainless steel, combining inherent corrosion resistant properties with greater strength and lighter weight.

The clamp is streamlined and compact in design. The hose clamp band is 1/2" wide and the clamp only 9/16" in width at its widest point. The screw is fully enclosed in a stainless steel housing, only 1/2" of which bears on the hose. This scientific design of the housing combines compactness with greater strength, providing excellent sealing characteristics, plus a larger effective range of adjustment to fit variable hose sizes. This, in turn, reduces the necessity for many sizes of clamps.

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Aviation
HOSE
CLAMPS



Getting a Break: The campaign to give the small businessman a break appears to be gaining results. Conferees on the surplus property bill conceded this need and in various other ways attention is being paid to the welfare of small business. This tendency stands to help the smaller operator who hopes to build an aviation business much as did the filling station man build his location into a thriving auto concern after World War I.

Customers Consulted: Manufacturers who are planning to produce short-haul feeder type planes and cargo planes are having their engineers spend considerable time consulting airline officials on what features are most needed in these particular types of aircraft. The consensus for the cargo planes is turning toward the high wing models in several cases, and some prospective customers favor side loading doors rather than tail loading doors.

Fast Highways Too: Expensive large airports with modern facilities will not fill the full commercial requirements, airlines and local governments realize, unless they are connected with the business parts of the cities by direct, fast arteries of traffic. Besides facilitating traffic to and from the airports these thoroughfares will enhance the value of real estate in areas near the airports, thus adding to the potential tax revenue, city officials realize.

Transportation Shift: With the approaching end of the war in Europe a change in transportation direction already is under way. Military movements of men and materials is largely from east to west in the U. S. and the trend will become even more pronounced when Germany falls.

Holiday Pay: Point at issue holding up the completion of plans for a holiday observance of V-Day in aircraft plants is the matter of pay for employees who are at work on the shift when Germany surrenders. This means thousands of dollars to many large plants. The War Department is struggling with the problem of agreeing on a uniform recommendation for the entire country concerning what is advisable to be done in the plane factories. Considerable opinion in the War Department and within at least a part of the industry is for a 48-hour holiday. Others think this would be too long a shutdown. The second and third shifts affected would have an unpaid holiday, but the shift at work when surrender comes would have to be paid. Some plants, fearing damage from celebrants, have made plans for orderly evacuation of the factories. Although some plants plan to continue operations except for a brief program of singing and cheering, so far, there has been no clear-cut difference made between the factories rushing orders for the Pacific and those which are working on tapering-off contracts.

Private Flying Boom: Several operators who have been in really big business running primary training schools for the Army Air Forces are preparing to swing into operating private flying facilities on a big scale. They believe their experience in training young pilots for the Army will stand them in good stead in operating flying schools, sales and repair stations for personal aircraft, and conducting large installations on a profitable basis. In some cases they will take over fields, already built, from which commercial lines will transfer operations.

Chaos Feared: The British are very unhappy about what they consider a lack of progress in working out international air problems. They apparently will continue their efforts to obtain an international air authority, but have met with no success in Washington. Meanwhile, they blame the U. S. for lack of progress and predict a chaotic state of affairs in international air transport unless unity is obtained. U. S. officials hold another view and seem satisfied that the bilateral approach rather than the multilateral is the better way. Sweden is among the countries supporting the U. S. position.

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... and General Tire is ready for the tremendous future which lies ahead!

America recognizes full well the important part air transport has played in our war effort. That all credit is due to the planes and personnel of our airlines for the safety and performance records they have maintained under the extreme demands of war.

In the tremendous expansion of flight ahead, the airlines must have tires equal to the stepped up requirements of faster landing speeds, heavier loads and improved runways.

Just as General Tire has kept pace with the fast-changing requirements of air transport since its earliest days . . . so is General Tire prepared now to match the new needs of the future.

And, America's airlines have the assurance that, as always, America's Top-Quality Tire and allied products will be built to the prime factors for long life, soft landings and rugged service . . . with *maximum safety* controlling every step in every improvement.

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Editorial

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develop the techniques which will bring air transportation to the masses of the people of the world. The United States has not always participated fully in such conferences in the past; it is time it stepped into a leadership role, for only the U. S. concept of air commerce holds promise for the real expansion aviation should have.

On the basis of the initial announcement, the conference holds great promise. There has been a fear in recent months that the eighteen months of discussions on air policies had resulted in very little achievement. The announcement means that the Department of State has taken hold in vigorous fashion and we can only hope that the results of the forthcoming conference are commensurate with the ambitious and comprehensive program outlined in the invitations.

Airpower Did It

THE DAY-TO-DAY movements of the ground forces across France and the Lowland countries on their way toward Germany have subordinated the real story of the European war since D-day.

Airpower has finally and thoroughly asserted itself in the tremendously effective job which started in April and which paved the way for the ground forces from the Channel coast to the German border.

The airplane has not been without attention in the press and radio stories from France, but not sufficient attention was given to the fascinating pattern laid down by the Ninth Air Force with the aid of the Eighth Air Force. Here is the real story of the European war, for it was airpower more than anything else which prevented the Germans from maneuvering into a strong defensive position, and disorganized their supply lines into a hopeless jumble.

Long before D-Day, came the planned air attacks on rail yards, tracks and bridges around the French eastern frontier and all the way into Germany. The attack on the Seine bridges began a month before D-Day. Then came the operations against bridges, embankments and choke points in the Paris and Orleans Gap, to be followed on D-Day with attacks on enemy traffic in the blocked-off area.

How effective this air phase was is illustrated by the German division which crossed the French border on June 15 and did not reach Normandy until July 8, after a 180-mile march across northern France, or by the Panzer divisions rushed up to the front from Poland which had to detrain near Nancy and move up 400 miles by road to the battle area. Airpower delayed the Germans not by minutes and hours but by days and weeks. Once the break-through was accomplished, the ground forces had relatively smooth going until they reached the first German defenses on the homeland border.

Never in history was an Army so decisively broken up and defeated. Ground forces must get much credit for what they have done—airpower isn't a cure-all of war. But airpower has made this war of movement possible. The tactical demonstrations in France were the first real exercise of massive airpower in history.

Piper's Public Program

WHEN THE HISTORY of the personal airplane is written, William T. Piper will merit a very large chapter. As a pioneer who has forged ahead in light-plane manufacturing through the lean prewar years, Piper has never neglected the public angle in selling aviation.

Now comes the booklet, "What Your Town Needs for the Coming Air Age," which Piper Aircraft Corp. is distributing to interested persons over the country, largely as the result of requests. Frank A. Hutchins, the advertising man, who has been at the top of the list of those in his field who have a keen sense of public values, informs us that 36,000 copies of this booklet have been requested to date and that a third edition is now on the presses.

Every community in the United States is concerned about the facilities it should provide for aviation after the war. And almost every community is confused. The Piper booklet provides sensible, clear-cut and rational answers. It doesn't over-shoot the mark. It doesn't indulge in wild fancy. It is a well-written, rational presentation that does credit to the business. Mr. Piper is to be commended for performing a useful and constructive service.

An Excellent Experiment

THE CITY OF ST. LOUIS would like the Civil Aeronautics Administration to sponsor a national downtown flight strip experiment for one year to determine if such landing strips in the heart of cities are feasible. In view of its past history in aviation, St. Louis is an ideal city for such a national laboratory. It is an excellent idea and we hope CAA Administrator Charles Stanton approves.

There is a lot of talk and planning about downtown flight strips, but does anyone really know whether they are workable? Before many more plans are laid out, it would appear to be sound and logical to conduct a year's tests.

Along the waterfront at St. Louis, in the heart of town, a series of blocks have been torn down and leveled to make way for an eventual park development. The land has been turned over to the National Park Service for the Jefferson Memorial and the city and government service have jointly spent over \$9,000,000 to date. But the park cannot be developed until later. At a cost of \$10,000 which the city will pay, a temporary landing strip 3,100 feet long and 165 feet wide could be developed. City and business interests, and two leading newspapers, favor the plan.

At no cost to itself, the CAA could sponsor the tests to determine the actual landing and take-off patterns, the nuisance to adjacent buildings if any, and the actual use that would be made of the strip. No hangars would be erected and plane owners could not park their planes there very long at a time. There would be no operations for hire or reward. Perhaps experiments could be made in shuttling mail and passengers to and from the outlying municipal airport.

(Turn to page 11)

B-29 Crews Above 30,000 Feet Breathe *without oxygen masks*



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Here men can live and breathe as at home, without oxygen masks or heavy, cumbersome clothing...without nausea or dizziness however high they fly.

AiResearch engineers worked long and closely with Boeing and the Army Air Forces to perfect the pressurized cabin. You'll hear more about this miracle of air control. A military achievement vital now, it will help make possible faster, smoother planes to speed postwar air travelers through the upper air in undreamed-of comfort. AiResearch Manufacturing Company, Los Angeles and Phoenix.

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"On my first tour through one of Bell Aircraft's assembly plants, I saw thousands of Bell employees performing tasks which before Pearl Harbor would have seemed as much of a fantastic dream as was 'Sir Boss's' in Mark Twain's book.

"I saw one group of women lift with a crane an Allison engine, accurately placing it into proper position in the fuselage.

"I saw another group skillfully threading yards of electric wires, enough to wire two average homes, through the wings and fuselage of an Airacobra, attaching each wire to the proper electrical unit.

"I saw hundreds of planes traveling slowly down numerous production lines. From their embryonic stage, they were gradually transformed into air weapons bristling with fire power — each ship armed with four 50 caliber machine guns and a cannon that spews out one hundred and fifty 37 mm. shells a minute.

"Even more impressive than seeing housewives, ministers, and bank clerks using tools with the skill of a New England tool maker, were the systematic methods of production which utilize every working hour and eliminate any possible waste.

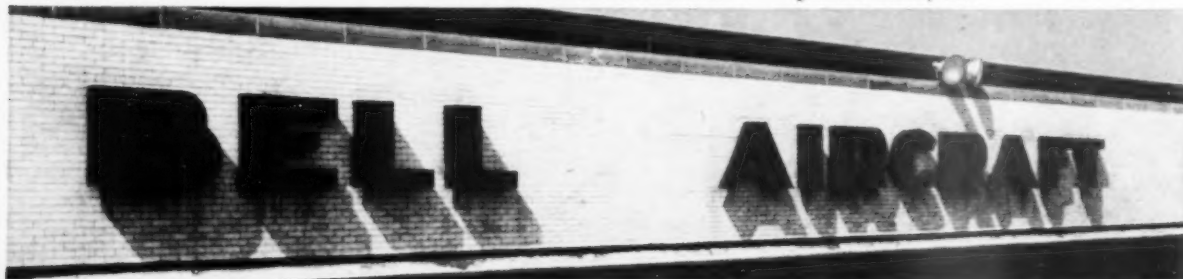
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The year's experiment would do great credit both to the CAA and to St. Louis. At the end of the year some very conclusive results would be known which would lead either to recommendations for downtown flight strips in all parts of the country, or an abandonment of the plan in favor of numerous landing fields in outlying areas. We'd like to see the experiment conducted.

Muscling In

TO READ the advertisements of automobile manufacturers in national magazines and to read the publicity releases sent out from the prolific publicity staffs of that industry, one would think that the aircraft industry had practically gone out of business and turned over the building of U. S. airpower to the automobilists.

The automobile industry has done a lot for the war. It has built quantities of planes and aircraft engines. But it has created virtually nothing outside of the work that Packard did on the Rolls-Royce liquid-cooled engine. All of the engineering know-how in aviation has been the creation of the aircraft industry. The automobile industry merely took existing designs and went to work.

Yet their advertisements to the public have gone all-out and have been misleading, to say the least. The automobile industry has contributed nothing to the aviation industry; it has participated in none of the aviation problems or organizations. It has barged into the war business—which was necessary for the war effort—but will soon be out of it and producing automobiles for the public. It has sat at the feasting table as a guest without having helped prepare the food and will soon get up and depart without washing the dishes.

But it's doing most of the after-dinner speechmaking. The imaginative copy writers of the industry could well tone down their outpourings a little.

Another Offender

SEVERAL issues ago we warned that the holding of Sunday breakfast flights at this stage of the war would hurt all those who had legitimate reasons for flying airplanes. We warned that flaunting of aviation freedom in the faces of rationed automobilists would bring repercussions. We suggested that the actions of a few offenders of good taste and discretion would injure all in the flying fraternity.

Well, here comes the august Salina, Kansas, Junior Chamber of Commerce with a big announcement of "Fly to Salina" for a big aviation breakfast. It seems that the original date was July 9, but it rained, so everybody was invited to come again. "We're hoping for good weather this time, and every pilot is invited to be here", the announcement said. "Remember to arrive between 8 and 8:30 a.m. The breakfast is held at the Masonic Temple, and transportation will be furnished into town." In conclusion the announcement said cheerily, "Let's make this a big get-together and have a big time". Fun, isn't it?

We think the Aeronautical Training Society is doing a fine job in endeavoring to stop such monkey-business before more protests are received in Washington asking for rigid rationing of aviation gas. For the good of the aviation fraternity, such affairs should not be held in the midst of a European campaign in which American lives are being lost daily. The Junior Chamber of Commerce at Salina ought to know better. Let's not invite more restrictions and regulations because of the bad taste of a few.

WAYNE W. PARRISH

'Misunderstanding'

San Francisco, Calif.

To the Editor:

Apprehension is expressed in an article appearing in the August 15th issue of American Aviation lest proposed California Air Commerce Act be "a step towards a hodgepodge of conflicting state laws to hamstring airline development, such as has emerged in the trucking industry."

The confusion that would result from the application of different sets of rules each time a state line is crossed must be apparent to all. The California Railroad Commission is particularly conscious of it and is advocating uniformity. The care that was taken in guarding against an eventuality of the nature referred to is evidenced, we believe, by Section 4 of the proposed Act which reads:

"No certificate shall be issued to any corporation or person to operate as an air common carrier unless the applicant for such certificate submits evidence, satisfactory to the Commission, showing that it or he is in possession of whatever certificates, permits, or licenses as may be required pursuant to the provisions of the laws of the United States, including any rules and regulations thereunder, and the provisions of 'The California Air Navigation Act,' with respect to the right to use such airports, air lanes and aircraft as may be necessary in order properly to conduct the proposed operations and observe proper standards of safety in the operation or navigation of aircraft."

Your article makes specific mention of a prohibition against an increase in rates or fares without this Commission's permission. Such a provision is required under the Constitution of this State. Like many of the other matters covered by the proposed Act, it is in effect today.



The third and fifth largest population centers of the country are located within this State, 327 air miles apart. The State itself is over 700 miles long. There is little doubt that intrastate air commerce will play an important part in the California transportation picture after the War. In the absence of intrastate regulation California may well become a fertile field for those seeking to engage in air transportation but unable to secure a certificate from the Federal government.

This letter is written in the hope that it might allay any fears that may have arisen as a result of a misunderstanding respecting the purposes of the regulation in question.

RAILROAD COMMISSION OF THE STATE OF CALIFORNIA

Howard G. Freas, Rate Expert

On Trail of New Name

New York City.

To the Editor:

I want to congratulate you on your editorial entitled "Aviation Terms" in the June 15 issue.

The phrase "private flying" has caused no end of trouble in airport lease negotiations. The word "promotion", as you pointed out, is even more undesirable. Buck Steers' suggestion of "recreational flying", in my opinion, does not cover the entire field as many private flyers will be using that medium for business purposes. I had, for awhile, thought of the designation "pleasure flying", but have realized that this meets the same objection as

that made to the suggestion of Buck Steers.

Certainly hope that some real and descriptive designation will come out of the suggestions you have made in your editorial and that you may consider it important enough to give the matter your continued attention.

(NAME WITHHELD ON REQUEST)

'Lay Off Us Executives!'

To the Editor:

Have wanted to write for some time to congratulate you on your editorial policy of getting results in the transport industry, by making people hopping mad at you for bringing up some unpleasant truths, and then, after means are taken to correct such published criticism, feel very kindly towards you. I must admit that for several years after our entering the World War, I did not get too much enjoyment from reading your magazine, as it seemed as though you attempted to steer clear of editorializing anything of a controversial nature, and probably rightfully so for national welfare in promoting unity, but it makes me very happy to see you getting on your armor again to do battle with things that don't please you in our transport field. Keep up the good fight because I know it gets results, and you would be surprised at the action that is taken through the pages of your fine magazine.

Now, I want to add my thoughts to the current "Airline Executive Controversy" that is at present being discussed pro and con through the pages of your Airline Commentary and Letters to the Editor. To begin with, I believe we can forget the nonsensical ravings of the party who, in his letter, condemned airline executives, and especially the volumes of bulletins they turn out.

Naturally, I can only speak for the com-

(Turn to page 14)

EVANS SKY PRODUCTS

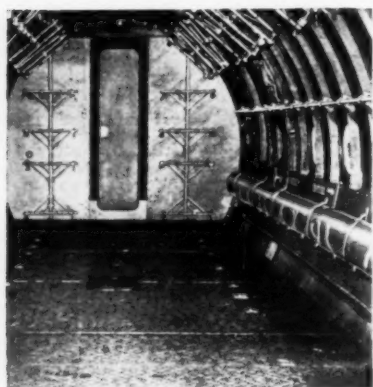
**HELP IMPROVE AIR TRANSPORTATION
FOR THE MEN AND CARGOES OF WAR**



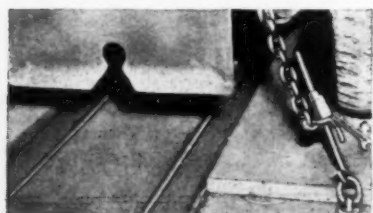
Evans four-man seats folded back out of the way (Army Air Forces Photo)



Seats with safety belts ready for occupancy (Army Air Forces Photo)



Seats rolled and strapped for unoccupied flight (Army Air Forces Photo)



Evans Pulljacks for mooring heavy vehicles

Evans Sky Seats are providing a welcome comfort for Army and Navy men who must ride long hours, to and from battle areas, in cargo planes.

Evans Sky Litter Supports are helping to carry the wounded from beachheads and battlefronts to hospitals half way 'round the world.

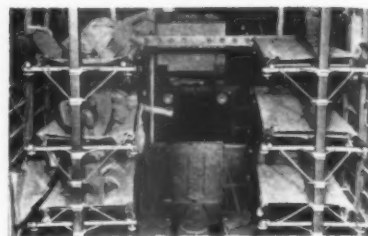
Evans Tie-down Equipment is holding globe-circling freight safe and secure, and military as well as commercial operations have proved the strength and durability of Evans Sky Floor.

Convenient, too, is the new Evans Tie Ring which provides sure anchorage for Evans Sky Litter Supports, Sky Seats and Skyloader Equipment: when not in use, the Evans Tie Ring is flush with the floor.

EVANS DETROIT
PLANT WINS



ARMY-NAVY
"E" AWARD



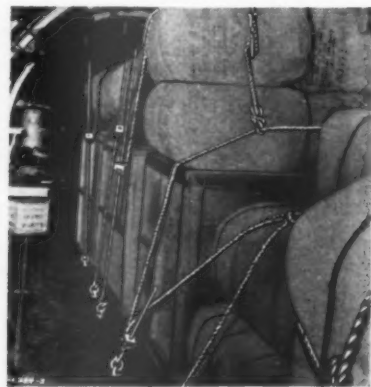
Navy transport plane with Evans Sky Litter Supports (Rohr Aircraft Photo)



Evans Sky Litter Supports in Army Transport Plane



Skyloader metal tie-down rods and hardwood beams (Navy Photo)



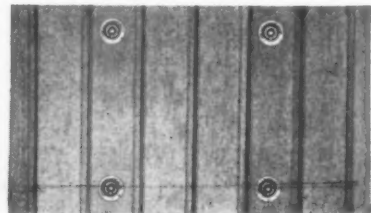
Skyloader rope hooks and tighteners (Army Air Forces Photo)

SKY PRODUCTS DIVISION



**EVANS
PRODUCTS
COMPANY**

DETROIT, 27, MICHIGAN



Sky Floor section with flush Tie Rings

75 times longer rust-protection from a hydraulic oil...

THE NEED ...an oil for use during production testing of hydraulic equipment which would prevent corrosion during subsequent storage and shipment.

THE PRODUCT ANSWER ...came from our pioneering experience both in the field of rust inhibitors and that of "super V.I." hydraulic oils. An oil we call UNIVIS PJ-44 ... now proved in Field Tests and approved by the Army Air Forces.

A QUICK PICTURE...

Under accelerated test conditions where straight mineral oil gave protection for only **X HOURS.**

The rust-inhibitor in Univis PJ-44 prevented corrosion for at least **75X HOURS.**

INSPECTION DATA ... Gravity, °A.P.I., 34.4 ... Flash, Degrees F, 230 ... Pour Point, degrees F—70 ... Saybolt Univ. Vis., Secs. at 210°F, 44.3; at 100°F, 81.3; at 40°F, 207; at 0°F, 601; at -40°F, 3031 ... Viscosity Index, 207.



YOU CAN DEPEND ON



Your next problem may be one our research has already solved in the laboratory. Or may be one, like the rust-preventive hydraulic oil above, that can be answered by combining our special knowledge in two or more fields of petroleum development. To any problem, we bring experience that dates back to the first flight and the world's largest research facilities.

Letters

(Continued from page 11)

pany I am with, but believe we are quite representative of the industry, and I can honestly say that this is the first time I have ever heard anyone speak of our executives in such harsh terms—this party should without question get out of the airline business at once, as he is doing himself and the industry definite damage, having the frame of mind he has. For my money, I wouldn't change one of the top men American has as they are definitely the best airline men in the business and had to work their way to the top through definite ability in certain lines of air transport work. Can you name anyone who could top Charlie Rheinstrom for traffic, or Ralph Damon for engineering, or Tom Brooks for station supervision, or Joe Martin for maintenance, or Hugh Smith, or Bill Littlewood, or any one of the top men with American? No sir, these men are on the spot and work like mad to maintain themselves in that position. I might say that they are all more interested in the advancement of American and the airline industry than in their own personal welfare. As for bulletins—please don't attempt to cut the industry down on this. We are a young industry and constantly finding out better ways of doing things and the only way this knowledge can be disseminated is through the use of bulletins. When the airlines reach the state where bulletins are few and far between, I

for one, will quit and join up with the Rocket Ship Airlines, where I can look forward to an exciting future. To my mind, bulletins are a signpost of progress, and without them we stand still.

So now I ask you to please lay off the poor airline executives as they have a lot on their minds these days, and need all their energies to plan for this "rosy post-war future" that we are looking forward to.

NAME WITHHELD BY REQUEST

Steers' Ideas 'Sound'

Buenos Aires, Argentina

To the Editor:

Though I do not usually agree with some of the language frequently printed in your magazine, I have to admit that Mr. Sheldon "Buck" Steers' sound ideas in connection with terms used in relation to aviation matters published on page 9, under the headline "Aviation Terms" in your June 15, 1944, issue, are indeed very sound. "Private flying" always did seem rather a stupid expression and we, in this country, use "aviacion deportiva" which is much more to the point and means aviation practiced as a sport. Mr. Steers' "recreational" flying more or less ties up with the Spanish expression and undoubtedly better covers the subject.

I am sure that more of this will be welcome.

H. F. FERNANDEZ

Books

AIRPORTS AND THE COURTS. By Charles S. Rhyne. Published by the National Institute of Municipal Law Officers, 730 Jackson Place, N. W., Washington 6, D. C. 222 pp. \$5.00.

Here is an immensely useful and timely book that should prove very useful in the current wave of litigations relating to airports. It is a complete collection and analysis of all reported court decisions involving acquisitions, operation, maintenance and zoning of airports, together with an analysis of federal, state and local legislation in the airport field.

The air space right of landowners, aviators and airport operators are analyzed in the light of applicable legislation and legal principles. Air space rights and airport zoning occupy a large portion of the book and both these subjects are in need of legal review at this time.

The author is an attorney at law and is the author of several other air law works including an annotation of the Civil Aeronautics Act of 1938, and is co-author of Airport Approach Protection Materials—Model Statute and Ordinance, published in 1940. He has appeared on behalf of municipalities in numerous cases involving airports. All attorneys and companies engaged in legal

from his raid on Tokyo; and the famous round-the-world flight of the Pacific Clipper to avoid Jap-held islands. The film is in 16 millimeter color with sound.

Work relating to airports will doubtless find Mr. Rhyne's new book of much value.

W.W.P.

BRITISH AIRCRAFT. By R. A. Saville-Sneath. Vol. 1. Published by Penguin Books, Hammonds-worth, Middlesex, England. 5 shillings (\$1.00).

This is one of the aircraft recognition series that have become so popular in England—and so useful and necessary during the war. It contains a great many photographs of planes in various attitudes and angles, and three-way drawings of virtually every British airplane in existence. As much information on performance, dimensions, weight, armament, etc., is given as can be released and in general it seems that this information is quite complete except for the newer models. A brief chronological recording of events leading up to, and into, the present war is presented in the first part of the book. The author has done an excellent job in compact manner and has two additional volumes coming off the press in due course. The present data are corrected to September, 1943.

HERE'S HOW TO FLY. By Gilbert Paust. 264 pp. Illustrated. Essential Books, 270 Madison Ave., New York.

Most of the facts you must know before you can fly, either now or in the postwar world, are contained in this book. It covers the elements of history, aerodynamics, navigation, meteorology, load factors, and aircraft engines, in language that is not too technical. The author's informal style provides a shortcut through masses of textbook facts.

A final set of authentic examination questions, patterned after the multiple choice type used in government tests, is provided in the back of the book.

The book will be helpful to those pre-

paring for CAA private pilot's certificates; to AAF or Naval aviation cadets for training in navigation; to preflight students in clearing up points missed in class lectures; to teachers with preflight aviation classes, since it provides a complete course of study for class use. To just ordinary citizens interested in aviation, it offers the text needed for necessary ground training.

New Booklets

"Sparring With the Weather," by Robert N. Buck, published by the Engineering Department, Aero Insurance Underwriters, 111 John Street, New York (7), N. Y.

"Weldability Standards for Alternate Aircraft Steels," prepared by Aircraft Welding Standards Committee, American Welding Society, 33 West 39th St., New York (18), N. Y. 25c per copy.

"The Developments of a Mechanical Cement Spreader and Accessories for Use in Soil Cement Construction," by R. C. Mainfort, Civil Aeronautics Administration, Washington, D. C. (Technical Development Report No. 41).

"Fleet-Welding," prepared by The Lincoln Electric Co., Cleveland (1), Ohio. Ask for Bulletin No. 440.

"Esna Data Book & Catalog," issued by Elastic Stop Nut Corp., of America, Union, N. J.

"Selecting Aircraft Timber," by Tom Clark, senior timber inspector, The DeHavilland Aircraft Co., Ltd., Toronto, Canada.

"Black Widow P-61 Night Fighter," prepared by Northrop Aircraft, Inc., Hawthorne, Calif. (Contains short history of company in addition to technical data on Black Widow).

"Why and How of the Vendors Shipping Document," prepared by Army Services Forces, Philadelphia Quartermaster Depot, 2800 South 20th St., Philadelphia (45), Pa.

"Pinellas County (Fla.) Airport," prepared by Pinellas County Aeronautical Advisory Commission, Florida National Bank Building, St. Petersburg (5), Fla.

"Highways of the Air," a review of the importance of radio in aviation, has been issued by Radio Receptor Co., New York City. The booklet contains an article on the Army Airways Communications System by Lt. Walter W. Fawcett, Jr., illustrating the mechanics of radio in the operation of the military airways; "Airways and Ground Facilities of the Future," by Wm. A. M. Burden, Asst. Secretary of Commerce; "Radio in Aviation," by Charles I. Stanton, Civil Aeronautics Administrator, and the fifth reprint of the original edition of "Highways of the Air," plus many well-defined illustrations and diagrams.

Obituary

Rene Tampier

Rene Tampier, president of Bloctube Controls of Canada and the owner of three British and a French aircraft plant, died of a heart attack August 27 in Montreal. He was a personal friend of the Wright Brothers. Tampier's entire British production was devoted to the manufacture of engine controls of his own design for Wellington and Halifax combat aircraft, while production in his Canadian plant was devoted to engine controls of the Lancaster. A pioneer in the aircraft field, Tampier's "bloctube" carburetor was used by the Allies in the last war. It incorporated the carburetor system used without floatchambers.

New Films

"From Spruce to Bomber" is the title of a Universal Pictures movie short, depicting the manufacture of a Mosquito bomber from the felling of the trees to the testing of the plane, which is scheduled for release to theatres this fall.

"Clippers Go to War" is the title of a Pan American Airways motion picture just released. The Jap attack on the Hong Kong base of PAA is featured as are scenes depicting the flight deck of a Clipper when word was flashed of the Pearl Harbor attack; evacuation of 72 passengers from Burma by a China National Airways DC-3, including Gen. Jimmy Doolittle returning

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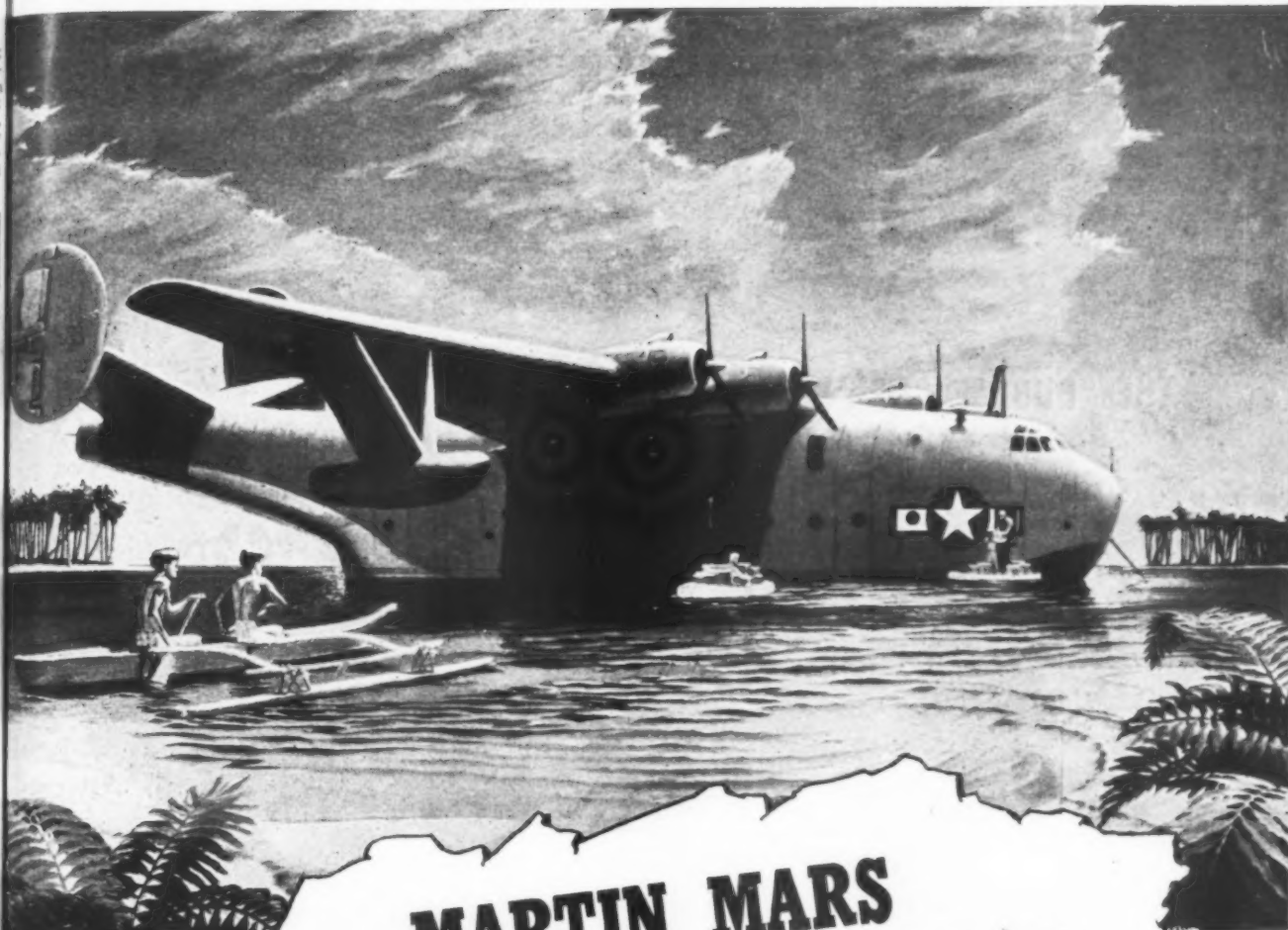
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MARTIN MARS SLASHES TON-MILE COSTS

AIRCRAFT operating costs, low enough to permit comparison with surface costs in some fields, are now within sight thanks to the 72-ton Martin Mars. World's most efficient airplane, the Mars already shows an operating cost of less than 15 cents per ton-mile, according to Glenn L. Martin, president and founder of the company which bears his name.

Moreover, Mr. Martin declares, the twenty new 82-ton Mars transports now being built for the U. S. Navy will have an operating cost of 10 cents per ton-mile at 80% cargo capacity; while a ton-mile operating cost of 7 cents is in sight.

For example, in the shipment of deep-frozen foods, Mars transports, dispensing with mechanical refrigeration by climbing to 25,000 feet and sub-zero temperatures, will operate at amazingly low ton-mile costs at speeds upwards of 200 miles per hour. And this is only one of many new fields the Mars has opened to aviation. To reach the world of tomorrow, ship by Martin Mars!

THE GLENN L. MARTIN COMPANY, BALTIMORE 3,
MARYLAND, U. S. A.

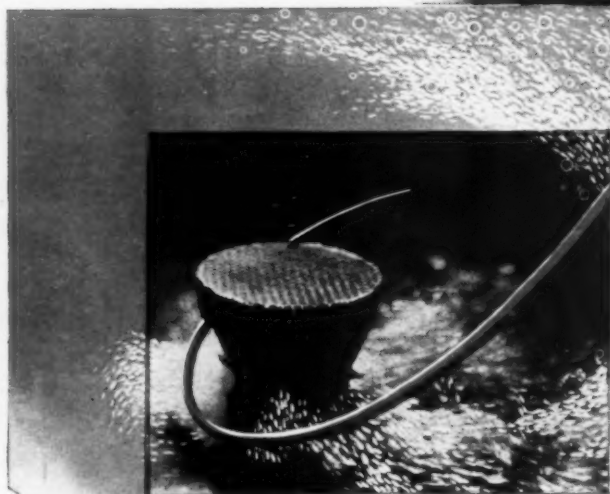
THE GLENN L. MARTIN-NEBRASKA COMPANY—OMAHA

Martin
AIRCRAFT

Builders of Dependable Aircraft Since 1909

AGAIN AMERICAN INGENUITY BRINGS OUR PLANES OUT ON TOP!

THE "BUBBLE CURE" THAT LIFTS A FIGHTER'S CEILING!



In the thin upper air gasoline "boils" in a plane's wing tanks. Vapor bubbles form. If they get into the gas lines they starve the motor—lower its ceiling.

But today that problem is solved. No matter how high enemy planes go, our boys can top them!

For American engineers have perfected an ingenious booster pump that keeps gas lines free of "bubble trouble". Hidden in the bottom of the gas tank, this tiny pump whirls out the bubbles as fast as they form . . . plays a giant's role in bringing our flyers back safely!

Borg-Warner, in its Pesco Division, produces huge numbers of these pumps for high altitude fighters and bombers. In addition, almost every type of plane is equipped with other Pesco pumps.

You'll find many such engineering achievements in Borg-Warner's list of more than 100 different items for war. And all spring from an ideal that is basic with Borg-Warner: "design it better—make it better".

That ideal means much to America. The essentials produced before the war by Borg-Warner's many units are

so numerous and so widely accepted in industry, on the farm and in the home, that there is hardly an American who does not benefit from them every day.

Partners with the Aviation industry in peace and war, Borg-Warner supplies these and other essential parts . . .

HYDRAULIC, VACUUM AND FUEL PUMPS • CARBURETORS
REDUCTION AND PROPELLER GEARS • ENGINE PARTS
UNIVERSAL JOINTS • AIRCRAFT CONTROL CHAINS
AIRCRAFT CLUTCHES • HELICOPTER TRANSMISSIONS
POWER TURRETS • OIL COOLERS
COIL SPRINGS AND FLAT SPRINGS



BORG-WARNER

Peacetime makers of essential operating parts for the automotive, aviation, marine and farm implement industries, and of Norge home appliances . . . these units which form the Borg-Warner Corporation are today devoted exclusively to the needs of war: BORG & BECK • BORG-WARNER INTERNATIONAL • BORG-WARNER SERVICE PARTS • CALUMET STEEL • DETROIT GEAR AIRCRAFT PARTS • DETROIT VAPOR STOVE • INGERSOLL STEEL & DISC • LONG • MARBON • MARVEL-SCHIEBLER CARBURETOR • B-W SUPERCHARGERS, INC. • MECHANICS UNIVERSAL JOINT • MORSE CHAIN • NORGE • NORGE MACHINE PRODUCTS • PESCO PRODUCTS • ROCKFORD CLUTCH • SPRING DIVISION • WARNER AUTOMOTIVE PARTS • WARNER GEAR

World Air Conference in U. S. Nov. 1

More Than 50 Nations Invited to Draft Plan For Immediate Commercial Flying

THE LONG-AWAITED and oft-predicted international civil aviation conference has been called by the United States Government for November 1 in this country. More than fifty countries have been invited, including such neutrals as Sweden and Switzerland, but excluding such countries as Argentina and Finland.

The broad scope of the projected conference caught many in the industry by surprise. Even many government officials were not aware of the sudden Department of State announcement on Sept. 11 although they knew the conference plans were impending.

Most important feature of the proposal is the plan for inauguration of provisional air routes which may permit widespread commercial flying long before the world war can be considered closed. The establishment of a world air conference on a technical level, and creation of a general world council, in addition to a multilateral convention on principles of transit and non-commercial stops, are among the other features.

Announcement of the conference invitation followed an extensive series of bilateral informal talks by the U. S. with such countries as Great Britain, Canada, Union of South Africa, China and the U.S.S.R.

The announcement was made by Adolf A. Berle Jr., Assistant Secretary of State, who has been handling aviation matters for the department.

Complete Text

The complete text of the Department of State's announcement follows:

"More than fifty countries have been invited by this Government to an international conference on civil aviation to take place in this country beginning November 1. Exploratory conversations with several countries which have been held in recent months have indicated the desirability of holding such a conference as soon as practicable. The course of military events has already freed great areas of the world from military interruptions which forced the cessation of civil air traffic. When Germany is defeated, military interruptions will have virtually ended in all areas save those presently held by the Japanese. The approach of German defeat underlines the need for prompt arrangements by which peaceful traffic through the air may be promptly resumed.

"The invitation extended by the De-

partment of State suggests that the forthcoming conference make arrangements for immediate establishment of provisional world air routes and services which would operate during a transitional period. The proposal is also made that an interim council with subordinate committees be set up by the Conference.

"Through this council, the data of practical experience obtained during the transition period could be collected, recorded and studied, and further recommendations for improving international air transport arrangements could be made in the light of that experience. Such a council operating through working committees could likewise recommend future action to be taken with respect to technical standardization and uniform procedures.

Over-all Convention Seen

"The Conference would likewise discuss the principles and methods to be followed looking towards the adoption of a new over-all aviation convention.

"The invitation, as sent to the governments and authorities listed herewith, is quoted below:

"The Government of the United States has concluded bilateral exploratory conversations with a number of other governments which have displayed a special interest on the subject of post-war civil aviation, with particular emphasis on the development of international air transport.

"These discussions have indicated a substantial measure of agreement on such topics as the right of transit and non-traffic stops, the non-exclusivity of international operating rights, the application of cabotage to air traffic, the control of rates and competitive practices, the gradual curtailment of subsidies, the need for uniform operating and safety standards and the standardization or coordination of air navigation aids and communications facilities, the use of airports and facilities on a non-discriminatory basis, and the operation of airports and facilities in certain areas. It was also generally conceded that international collaboration, probably by means of an international aeronautical body, would be desirable in achieving and implementing the aforementioned objectives, although there was some diversity of opinion as to the extent of regulatory powers on economic matters which should be delegated to this international body.

"The approaching defeat of Germany, and the consequent liberation of great parts of Europe and Africa from military interruption of traffic, sets up the urgent

need for establishing an international civil air service pattern on a provisional basis at least, so that all important trade and population areas of the world may obtain the benefits of air transportation as soon as possible, and so that the restorative processes of prompt communication may be available to assist in returning great areas to processes of peace.

"The Government of the United States believes that an international civil aviation conference might profitably be convened within the near future for the purpose of agreeing on an increase in existing services and on the early establishment of international air routes and services for operation in and to areas now freed from danger of military interruption, such arrangements to continue during a transitional period. This conference might also agree so far as possible upon the principles of a permanent international structure of civil aviation and air transport, and might set up appropriate interim committees to prepare definitive proposals. Definitive action on such proposals, based on practical experience gained during the interim period, might be taken either as a result of a later conference, or by direct approval of the governments without the necessity of conference.

"This Government suggests that the international conference proposed for the immediate future could have the following objectives:

"I (a) The establishment of provisional world route arrangements by general agreement to be reached at the Conference. These arrangements would form the basis for the prompt establishment of international air transport services by the appropriate countries.

"(b) The countries participating in the conference would also be asked to agree to grant the landing and transit rights necessary for establishing the provisional route arrangements and air services referred to above.

World Air Pattern Desired

"(It would be highly desirable if each delegation were sufficiently familiar with its country's plans for international air services to permit formulation of an international air transport pattern referred to in paragraphs (a) and (b) above.)

"II. The establishment of an Interim Council to act as the clearing house and advisory agency during the transitional period. It would receive and consider recommendations from each of the working committees referred to in item III; it would report upon desirable revisions in routes and services during the interim

period subject to the approval of the countries served by these routes and services; it would maintain liaison with each of the participating countries; it would supervise studies and submit information to the interested governments concerning the development of air transport during the transitional period; and would make recommendations to be considered at any subsequent international conference.

"III. Agreement upon the principles to be followed in setting up a permanent international aeronautical body, and a multilateral aviation convention dealing with the fields of air transport, air navigation and aviation technical subjects; and, for the purpose of developing the details and making proposals for carrying into effect the principles so agreed, the establishment of the following working committees, which would be under the supervision of the Interim Council:

Data to be Correlated

"(a) A committee to follow developments relating to the establishment of the routes and services to be established under item I, to correlate traffic data, to study related problems and to recommend desirable revisions in routes and services. This committee would also make studies and recommendations concerning the future pattern of these routes and services.

"(b) A central technical committee, with subordinate sub-committees, which would work closely with the committee described in subparagraph (c) below, to consider the whole field of technical matters including standards, procedures, and minimum requirements, and to make recommendations for their application and adoption at the earliest practicable time.

"(c) A committee to draft a proposal with respect to the constitution of a permanent international aeronautical body and a new multilateral aviation convention.

'Having in mind the foregoing considerations as a basis for discussion, the Government of the United States extends

1st Full Commercial Load Shipped by AA

Air freight as a commercially feasible method of transporting regular shipments of merchandise and commodities, including perishables, became an actuality this week when American Airlines instituted a new Airfreight service. The first complete Airfreight tariff ever filed by an airline with the U. S. Government was filed by A A with the Civil Aeronautics Board September 14.

The world's first full shipment to move in this type of service was 5,000 pounds of spinach shipped Sept. 14 from Burbank, Cal. to Cincinnati, O. The Airfreight service will start regular operations October 15 between 43 cities on American's system, according to James A. Wooten, cargo traffic manager for the airline.

The tariff provides for four classifications—A, B, C and D, depending on value, volume, density, perishability and fragility. The rate, including pick-up and delivery, averages as low as 30c a ton mile for Class "D" merchandise on 100 pound shipments. A rate for agricultural perishables in shipments of 5,000 pounds minimum is approximately 26c per ton mile for 450 miles or more.

The initial shipment was part of a merchandising program fostered by the Kroger food store chain. The spinach was destined for Kroger stores in Cincinnati, Louisville and Dayton.

a cordial invitation to your Government to participate in an international conference along the above lines, to take place in the United States beginning November 1, 1944; and in view of the time element would appreciate receiving an early response as to whether your Government can arrange to have a delegation at such conference.

'This invitation is being extended to

the following governments and authorities:

"(a) All members of the United Nations:

"(b) Nations associated with the United Nations in this war;

"(c) The European and Asiatic neutral nations, in view of their close relationship to the expansion of air transport which may be expected along with the liberation of Europe.

The Danish, Minister and Thai Minister in Washington will be invited to attend in their personal capacities."

List of governments and authorities to whom invitations have been extended:

Afghanistan	Lebanon
Australia	Liberia
Belgium	Luxembourg
Bolivia	Mexico
Brazil	Netherlands
Canada	New Zealand
Chile	Nicaragua
China	Norway
Colombia	Panama
Costa Rica	Paraguay
Cuba	Peru
Czechoslovakia	Philippines
Dominican Republic	Poland
Ecuador	Portugal
Egypt	Saudi Arabia
El Salvador	Spain
Ethiopia	Sweden
French Delegation	Switzerland
Great Britain	Syria
Greece	Turkey
Guatemala	Union of South Africa
Haiti	Union of Soviet Socialist Republics
Honduras	Uruguay
Iceland	Venezuela
India	Yugoslavia
Iran	
Iraq	
Ireland	

The Danish Minister in Washington The Thai Minister in Washington

Fairchild C-82 Test Flown Successfully

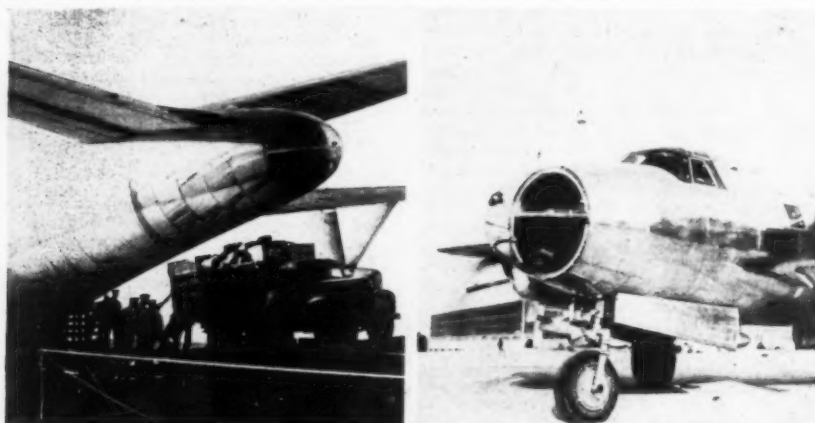
The new twin-engined high-winged Fairchild C-82, designed exclusively to carry military cargo, was successfully test flown at Hagerstown, Md., Sept. 9. It is about twice the size and capacity of the DC-3, has a range in excess of 3500 miles, and got off the ground in only a fraction of the airport's 3000 ft. runway. Fairchild Aircraft officials declare the C-82 will be easily adaptable to peacetime commercial air service, providing unique features for handling passengers, mail, express and cargo.

Benny Howard made the test flight in the presence of R. S. Boutelle, vice president and general manager of Fairchild, and engineers who have worked almost two years on the manufacture of the giant air freighter.

In building the C-82, engineers sought to solve the problem of landing heavy military loads on the small rough fields near battlefronts, especially in jungle and island fighting.

When standing on its tricycle landing gear the bottom of its square interior fuselage is at the height of a truck platform from the ground. The streamlined after-end opens to the complete height and width of the interior, and freight can be stowed directly from a truck.

Nicknamed the "flying box car," the C-82 can carry tanks, jeeps, 90-millimeter guns, and an undisclosed number of paratroopers can be rapidly poured through the huge rear door.



Interchangeable Nose-Tail—With few minor changes, the Plexiglas nose on the Army's B-26 (right) becomes the tail enclosure on the Navy's Mars. The Glenn L. Martin Co., manufacturers of both planes, achieved this bit of ingenious adapting.

Plane Builders Map Reconversion Program

Fair Termination Sought So Funds Will Be Available for Civilian Trade

By GERARD B. DOBBEN

FLUSHED WITH THE PRIDE of accomplishment but deeply concerned over the shifting problems of the present and the uncertainty of the future, the nation's leading aircraft manufacturers came to Washington last week to ask the Government for prompt and fair settlement of contracts at the time of termination so that there may be funds for a rapid reconversion to civilian production and maximum postwar jobs.

The aircraft manufacturers met at the call of the National Aircraft Production Council and of the Aeronautical Chamber of Commerce of America. The Aero Chamber is in the process of reorganization and a new permanent manager, will be announced soon.

Donald W. Douglas, president of Douglas Aircraft Co. was elected president of the Council, succeeding Victor Emanuel, president of Aviation Corp. Rex B. Beisel, general manager of Chance Vought Aircraft Co., was named to the Board of Governors from the East Coast council to succeed L. C. Goad, and Harry Woodhead, president of Consolidated Vultee Aircraft Corp., was elected from the West Coast Council to succeed P. G. Johnson, president and general manager of Boeing Aircraft Co. The Council adopted a budget to carry it through to Jan. 1 and induced Manager Frank Russell to remain on a consultant, part time basis.

Momentous Occasion

One of the highlights of the three day sessions was the press conference held by the Board of Directors of the Aeronautical Chamber Sept. 9 at the Statler Hotel.

Somewhat indicative of the fact that the aviation industry has come to full stature during the past year was the fact that nearly 100 newspapermen and aviation writers attended a smoothly handled conference where they had an opportunity to propound some perplexing

questions and observe the top flight aircraft manufacturers answer them intelligently, honestly and courageously. The only questions avoided were those that involved security or the relative merits of one type engine over another and the future for that romantic new development, the helicopter.

Wilson Addresses Scribes

E. E. Wilson, vice chairman of United Aircraft Corp. and president of the Aero Chamber, started the conference when he reviewed the purposes of the discussions, the accomplishments of the conferences and the expectations and hopes of the future. He characterized the meetings that had been held as the "most momentous occasion in the lives of most of us in the last 25 years of aircraft production."

Then as if to stress to the newsmen as to just what has happened to an industry that was pretty much in the doldrums in the late 30s, Wilson said: "The aircraft industry is now the largest industry in the world. The 100,000 plane production is equivalent to the production of five million automobiles," he said.

But almost in the same breath, he sounded a sharp note of alarm. "Survival will be difficult. If we survive contract termination, and I'm not sure that we will, then the next big obstacle will be the disposition of war surpluses," he said.

Asserting that the peace of the future would have to be assured through air

power, Wilson said that the manufacturers, in a conference with Lieut. Gen. H. H. Arnold, chief of the Army Air Forces, had assured the industry that the Air Forces would recommend to Congress a program for plane construction which would be designed to keep this country in the forefront in military aviation.

Much Up To People

What happens to that program, Wilson explained, will depend on public policy as laid down by the people, through their elected representative. Public policy, he said, will depend on public opinion and public opinion will depend on public information.

He said that the manufacturers had asked for firm decisions from the Government now so that the industry might develop its plans for the future with utmost assurance that the rules would not be changed from time to time.

To one question, Wilson said that he was positive that the auto industry would get out, as quickly as possible, of the aviation engine field once their war contracts are completed or terminated.

Asked whether the Government had given the industry a definite understanding that some peacetime conversion would be permitted upon the collapse of Germany, Wilson turned to J. Carlton Ward Jr., president of Fairchild Engine and Airplane Corp. for an answer. Ward said there was no complete assurance. He felt factories producing certain types of planes which are needed in the Pacific sphere of operations, would not be affected. Many of these have Navy contracts.

Ward Sounds Warning

Ward further explained that the aircraft industry had enjoyed the top priority position with reference to labor and that once cutbacks and terminations were put into force, this labor might well be transferred to other industries which still have a big war production schedule to fulfill.

Glenn L. Martin, President of the Glenn L. Martin Co., answered a question relat-



American Aviation Photo.

Manufacturers Put On Thinking Caps—This candid photograph of nine of the nation's leading aircraft manufacturers was taken at a press conference September 9 in Washington's Statler Hotel. A reporter had just asked the group a question. Each of the following appears to be pondering it: Left to right—T. Claude Ryan, president, Ryan Aeronautical Co.; Alfred Marchev, president, Republic Aviation Corp.; Clayton J. Bruker, president, Waco Aircraft Co.; Glenn L. Martin, president, Glenn L. Martin Co.; Eugene E. Wilson, vice chairman, United Aircraft Corp.; J. Carlton Ward, Jr., president, Fairchild Aircraft; R. E. Gillmor, president, Sperry Gyroscope Co.; Joseph T. Geuting, Jr., vice president, General Aircraft Corp.; and Le Motte T. Cohu, chairman, Northrop Aircraft.

Aviation Calendar

Sept. 15—Meeting of Joint advertising committee, Air Transport Association, New York.

Sept. 30—Dedication of airport at Elkins, W. Va.

Oct. 3—Air Line Dispatchers Assn. convention, Chicago.

Oct. 3-4—Georgia Aviation Clinic, Macon, Ga.

Oct. 5-7—S A E National Aircraft Engineering and Production meeting and engineering display, Biltmore Hotel, Los Angeles.

Oct. 16-19—Annual meeting, American Welding Society, Hotel Cleveland, Cleveland.

Oct. 20—Institute of the Aeronautical Sciences, national air transport meeting, Hotel Statler, Washington. (Postponed from Sept. 22)

Oct. 25-27—Southwestern Aviation Conference, Amarillo.

Nov. 9-10—Fall meeting, Institute of the Aeronautical Sciences, Engineering Society, Dayton, O.

Nov. 13-14—Annual meeting National Association State Aviation Officials, Skirvin Tower Hotel, Oklahoma City.

Nov. 15-16—National Clinic of Domestic Aviation Planning, Oklahoma City.

Dec. 4-6—SAE National Air Cargo Meeting, Chicago.

Dec. 5-7—Aircraft Distributors & Manufacturers Assn. 2nd annual convention, Hotel Jefferson, St. Louis.

Dec. 6-7—National Aviation Trades Association, annual convention, Jefferson Hotel, St. Louis.

Jan. 8-12—1945 SAE Annual Meeting and engineering display, Book-Cadillac Hotel, Detroit.

ing to the industry's future. He said a survey made among the employees of his plant indicated that 25 percent would return to the vocations that they had left, largely for patriotic reasons, to help with plane manufacture. Another 25 percent indicated they would return to their old jobs in other industries. A third 25 percent, whom he classed as "not making the grade but doing well enough to retain them when peak production was needed" would have to be laid off when cutbacks and termination of contracts are put in effect. The fourth class—the artisans—will be the group that Martin will build on in the postwar era. He predicted that if their suppositions are correct—victory, reasonable peacetime prosperity and continuance of our republican form of government—then by the end of eight years, the Martin company would be employing as many workers as it is today.

LaMotte T. Cohu, general manager and chairman of the Board of Northrop Aircraft Inc. said that if the aircraft industry can obtain enough business so that "overhead does not eat us up and if we can change over fast enough, I believe we will be able to develop a good industry."

To a question on the future of the personal aircraft industry, Joseph T. Gueting Jr., president of General Aircraft Corp. said this depended largely on the number of airports, airparks and landings strips that would be built together with removal of "odorous and burdensome" Government restrictions to private flying.

Alfred Marchev, President of Republic Aviation Corp., predicted that private plane costs would be reduced "to a point which few in the industry will believe possible today." He said the will and

desire of the average American to get what he wants will have a wholesome effect in postwar development of private flying because so many Americans will want to fly. He said he could not name the income bracket through which the industry would make its mass sales.

Quick Settlement Needed

Harry Woodhead, president of Consolidated Vultee Aircraft Corp. told the newsmen that the technique in mass production learned through war experience would aid the industry in the postwar era and that this offered the greatest hope for bringing costs down to a point where mass sales might be expected.

The Board of Governors adopted the recommendations of the Chamber's Contract Termination committee which set as the goal the purpose outlined in the Contract Settlement Act of 1944 "To assure . . . speedy and equitable final settlement of claims under terminated war contracts."

The Committee's report pointed out: "The aircraft industry went to war on the basis of 'first things first' and will not survive except on a termination method embodying these same principles. In the termination stage, the essential 'first thing' is a fast final financial settlement divorced from detailed allocation and disposal of materials."

The Chamber Governors also emphasized the need for the country to adopt a postwar air policy. They cited the statement by General H. H. Arnold yesterday that the future security of this country depends to a great extent on an adequate air force and "an industry with ever-increasing technical know-how" to design and build planes that will be the best in the world.

The Board's statement declared: Latest developments abroad again prove that technological progress in aviation is essential to national security. This means that the industry must expand research in its great engineering laboratories if America is to retain its dominant position in military and commercial aviation. Our present combat craft were developed in these laboratories with the encouragement of the Armed Services.

Any Frontiers Left?

Are there any aviation frontiers remaining in this country?

CAB Member Harlee Branch raised that question in the recent oral arguments in the Northwest-Detroit case in questioning H. R. Bolander, Jr., general counsel of Chicago and Southern.

Bolander was arguing that C&S was prepared to offer the local service required between Chicago and Detroit, and when he had finished Branch asked him if the case didn't indicate that there are no more aviation frontiers, rather than there now seems to be a tendency toward a duplication of existing services.

Branch said the airlines have now entered into a competitive race to add new services to serve local interests. In other words, he said, "in order to expand, A provides more service over B's route."

Swedish, U.S. Views On Postwar World Air Policy Similar

The United States and Sweden hold virtually the same views of postwar international air policy and Sweden, like the U. S., is seeking to make bilateral agreements based on reciprocity pending international agreement. Per A. Norlin, president of the Swedish international airline, SILA, told *American Aviation* following a conference with the State Department and other U. S. officials.

Speaking with full authority for his country, Norlin said Sweden favors an international aviation committee or board on the technical level, but is opposed to an international body which would deal with schedules and rates or the allocating of routes among the different countries. This is the view held by the U. S.

Pacts Based on Reciprocity

In a prepared statement, Norlin said: "Sweden's interest in participating in postwar air traffic is very great. In the intercontinental air traffic the Swedish airlines will cooperate with the Danish and Norwegian airlines, as Sweden did in European traffic before the war."

"Until an international agreement regarding how the postwar air traffic is to develop, the Swedish policy will be to make bilateral agreements based on reciprocity, and after the lines of the old Paris Convention, with the countries to which Sweden would like to develop its air traffic."

"Sweden has always been in favor of a free development of regular air traffic. Sweden, however, realizes that it will take a long time before such a free air traffic can be established. A first step must be a new air convention governing air traffic all over the world. It seems that this new convention best could be based upon the old Paris and Havana Conventions, both of which have proved valuable in the past."

"Further, we need an international aviation committee or board to regulate and plan the technical manner after which the postwar air traffic has to be developed into a safe means of transport. This committee should not deal with schedules and rates or the allocating of routes among the different countries. The committee should thus work after the same lines as the old C.I.N.A."

"We think it is very necessary that international air traffic be established as soon as possible and the old airline operators be put to work again. From their experience in the past and their knowledge of air traffic we think that later on the necessary international agreements could be worked out."

Gen. Norstad Heads 20th

Brig. Gen. Lauris Norstad has been named chief of staff of the Twentieth Air Force with headquarters at Washington. The Twentieth directs operations of B-29 Superfortresses under command of Gen. H. H. Arnold. Gen. Norstad succeeds Brig. Gen. Haywood S. Hansell, Jr., who has been given an undisclosed overseas command.

3 Airlines Order 93 Planes from Douglas

AA, UAL and Panagra Buy DC-4s, DC-6s For Postwar; Orders Exceed \$50,000,000

THE TWO LARGEST domestic airlines and one international carrier signed contracts with Douglas Aircraft Co. this week for four-engined airplanes designed to furnish high-speed air transportation in the immediate postwar period.

Contracts were signed by American Airlines, United Air Lines and Pan American-Grace Airways for 93 airplanes to cost more than \$50,000,000.

Planes to be purchased by each line are:

American—25 Douglas DC-4s and 30 DC-6s. American also expects to order additional four-engined Douglas planes shortly, the company revealed.

United—15 DC-4s and 20 DC-6s. United, within a week, will sign contracts for an additional 15 DC-6s.

Panagra—three DC-6s.

Under discussion, but not ready for signature, are additional contracts with Eastern Air Lines, one of the original four lines which had these planes on order before the war, and other large operators in the U. S. and abroad, it was said.

The orders assure Douglas of maintaining, in the immediate postwar period, its position as the principal manufacturer of equipment for the larger U. S. airlines. The orders were also an indication that the airlines involved plan to use the type of equipment that has been tested by them during the war—both DC-4 and DC-6 are commercial developments of the C-54, which has more than 6,000 wartime ocean crossings to its credit.

In addition to the contracts signed this week, Donald Douglas, president of Douglas Aircraft, revealed that his company approaches peacetime production with a total backlog of commercial orders now on its books for more than \$100,000,000. This figure, he said, is more than three times greater than any previous peak of non-military orders held by the company in its 23-year history.

The DC-4 is described as a four-mile-a-minute, 44-passenger and cargo transport plane equipped with 1,450-horsepower Pratt & Whitney Twin Wasp engines.

The DC-6, powered with 2,100-horsepower Double Wasps, will carry 56 passengers and cargo at five miles a minute. Coast-to-coast travel time will be cut to approximately eight and one-half hours, Chicago-New York time to two hours and 40 minutes. It is claimed that this plane is the fastest transport available either in the U. S. or abroad for immediate postwar use.

Equipped with a pressurized cabin, the DC-6 will have gross take-off weight of 80,500 pounds. Wing span will be 117 feet and overall length 100 feet. Both DC-4 and DC-6 will have fully retractable tricycle landing gear, steerable type nose wheel and three-bladed hydro-matic Hamilton Standard propellers.

Non-stop cruising range of the DC-6 is 2,751 miles and the ship can be equipped for increasing this range to 3,540 miles.

Contracts were signed at the Wings Club in New York by Donald Douglas; A. N. Kemp, president of American; W. A.

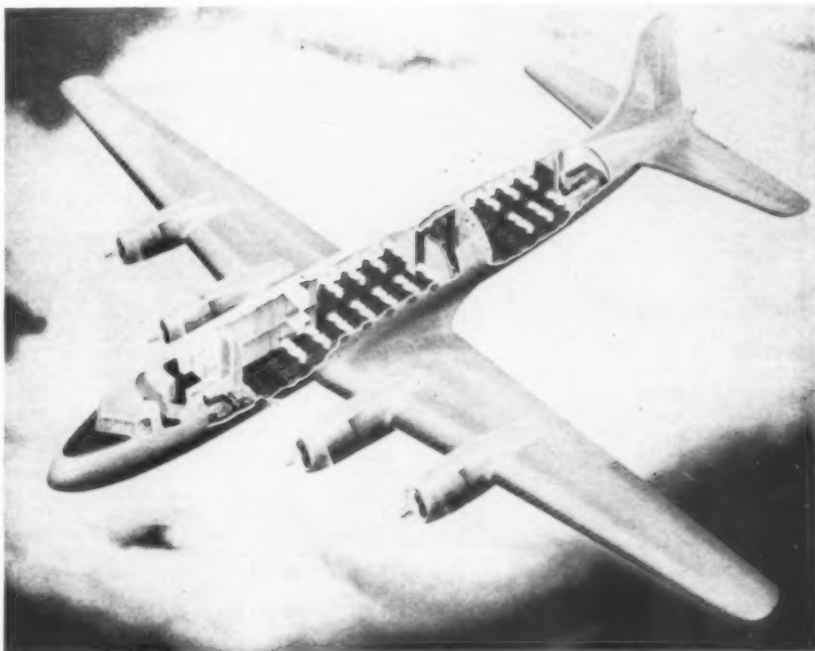
Patterson, president of United, and Harold J. Roig, president of Panagra.

"Signing of these contracts definitely assures postwar leadership for the United States in world air transport," Douglas said. "With their unrivaled speed, com-

fort and operating efficiency, these new transport planes will represent a long stride forward in domestic and international airline service. It is our sincere hope that they also will assist in the reconstruction and rehabilitation of the war-torn nations."

Douglas gave assurance that airplanes still needed by the armed forces will not be delayed by the execution of the commercial contracts.

Signing of the contracts came at a time when dissatisfaction in Great Britain had reached a new high over the lack of a government policy on the production of transport planes for postwar use. (See page 32.)



Drawing of the new Douglas Superliner, said to be faster (300 mph), more powerful, and with considerably greater passenger space than its sister model, the Army's C-54. This new craft is expected by Douglas Aircraft Co. to be the principal peacetime plane of many of the nation's airlines, supplanting the DC-3, popular before the war.

RAF Medical Director Wins Institute's Jeffries Award

The John Jeffries Award, given annually by the Institute of the Aeronautical Sciences for notable contributions to aero



Whittingham

is a fellow of the Royal College of Physicians and Surgeons of Glasgow,

Edinburgh, and London. He holds an LL.D. from Glasgow University, and has been honorary physician to King George since 1938. He was created a knight of the British Empire in 1941.

Previous recipients of the Jeffries award were: 1940, Dr. Louis H. Bauer, Chief Cardiologist, Meadowbrook Hospital, Hempstead; 1941, Major Harry G. Armstrong, U. S. Army Medical Corps, School of Aviation Medicine; 1942, Dr. Edward C. Schneider, Prof. of Biology, Wesleyan University; 1943, Brigadier General Eugene G. Reinartz, Commandant, Army Air Forces School of Aviation Medicine.

McIntyre Shifted to AAF

Col. J. D. McIntyre, formerly Chief Fiscal Officer for Ordnance, has been transferred to the General Staff Corps, Army Air Forces as head of the Air Forces Group of Legislative and Liaison. In his new assignment, Col. McIntyre will serve largely as liaison between the Army Air Forces and Congress.

Airlines Do More 'Work' But Profits Drop 2 Million

By ERIC BRAMLEY

NINETEEN U. S. AIRLINES did more "work" in the first six months of 1944, compared with a similar 1943 period, but their profits dropped almost \$2,000,000, an American Aviation survey shows.

Profits before U. S. income tax were down 11.28%, from \$16,722,364 to \$14,835,912, despite the fact that revenue passengers carried were up 19.8%, revenue plane miles 24.3%, revenue passenger

miles 27.31%, express pound-miles 3.73%, and mail pound-miles 39.48%.

Reason for the drop in profits is found in the operating revenues and operating expense figures. Revenues rose 16.74%, but this was completely offset by a 26.66% increase in expenses.

Expenses have been steadily outgaining revenues since early in the war. The increase, not unexpected, has been caused mainly by higher labor and material costs. Recently several airlines have instituted economy programs to bring ex-

penses more in line with revenues.

The 19 airlines (including Hawaiian and Caribbean Atlantic) showed the biggest gain in mail pound-miles—a gain which amounted to 39.48%. Mail revenue, however, increased only 21.86% due to rate reductions made by the Civil Aeronautics Board.

In one category—express—the airlines received less money for doing more work. Express pound-miles increased 3.73%, while express revenue dropped 15.96%. This decrease was caused by the express

Summary of U. S. Air Transport Operations

(Six Months Ending June 30, 1944)

TRAFFIC

	REVENUE PASSENGERS	REVENUE PLANE MILES	REVENUE PASS. MILES	AVAILABLE SEAT MILES	AVERAGE PASS. LOAD FACTR.	EXPRESS LB.-MILES	MAIL LB.-MILES
ALL AMERICAN		541,795				7,686,394	52,798,896
AMERICAN	391,444	14,770,437	239,125,570	268,250,889	88.91	4,541,526,051	9,916,312,277
BRANIFF	87,904	2,177,399	37,457,718	40,853,393	91.71	246,382,905	1,144,484,244
CARIBBEAN	10,230	108,600	703,173	958,032	73.98	7,812,170	1,555,310
CHICAGO & SOUTHERN	41,291	1,099,344	18,836,023	22,364,261	83.92	192,734,799	449,708,084
COLONIAL	21,466	392,722	6,663,278	8,181,768	80.91	27,815,490	46,343,378
CONTINENTAL	26,945	994,999	9,237,915	11,033,869	83.38	33,726,704	116,044,363
DELTA	69,943	1,434,313	27,076,486	29,611,849	91.34	162,992,443	925,633,009
EASTERN	198,721	7,421,968	114,778,377	132,265,400	86.73	1,488,413,054	4,705,099,425
HAWAIIAN	50,283	437,493	7,179,185	7,652,664	93.77	535,509,939	21,630,402
INLAND	7,723	479,427	2,532,076	3,633,316	69.17	2,696,889	30,701,757
MID-CONTINENT	32,610	1,045,426	9,327,649	12,868,402	72.16	25,869,624	229,491,887
NATIONAL	52,500	1,436,290	17,178,937	19,729,382	87.30	76,657,847	316,817,837
NORTHEAST	21,978	471,161	5,256,702	9,793,688	53.38	11,448,082	34,880,532
NORTHWEST	65,943	2,870,952	44,406,468	53,005,120	83.27	498,548,569	2,201,237,162
PCA	143,057	1,858,951	31,932,392	38,705,329	81.74	371,725,189	587,030,666
TWA	164,090	9,181,856	141,117,391	156,452,284	89.66	2,970,011,301	7,930,392,465
UNITED	294,703	13,075,291	201,748,365	210,790,254	85.62	3,686,400,612	15,362,066,535
WESTERN	47,349	1,292,726	22,790,067	26,311,844	85.83	228,112,680	545,149,529
TOTALS	1,728,180	61,091,150	937,347,772	1,052,461,744	89.06	15,116,070,743	44,617,377,781
Corresponding Six Months of 1943	1,441,871	49,151,490	736,259,776	858,823,166	85.74%	14,572,384,774	31,995,495,111

FINANCIAL

	PASSENGER REVENUES	MAIL REVENUES	EXPRESS REVENUES	OPERATING REVENUES	OPERATING EXPENSES	NET INCOME BEFORE U. S. INCOME TAX
ALL AMERICAN		\$ 262,267	\$ 2,084	\$ 266,083	\$ 263,253	\$ 312,661
AMERICAN	\$12,361,217	2,970,481	1,113,061	16,791,171	13,027,131	3,667,714
BRANIFF	1,891,233	342,174	49,938	2,335,976	1,808,520	855,715
CARIBBEAN	78,976		6,279	90,385	90,643	(522)
CHICAGO & SOUTHERN	959,006	134,912	46,747	1,165,819	1,173,516	45,498
COLONIAL	360,237	67,670	12,102	451,340	478,618	(14,907)
CONTINENTAL	457,276	442,048	3,644	912,501	838,842	224,682
DELTA	1,340,771	277,658	29,871	1,697,516	1,213,639	451,266
EASTERN	6,133,935	1,405,711	340,121	8,052,443	5,800,084	2,349,552
HAWAIIAN	577,563	4,966	112,352	778,690	640,702	138,733
INLAND	127,423	178,907	1,048	314,551	319,042	897
MID-CONTINENT	457,417	427,814	6,880	902,172	733,312	164,983
NATIONAL	822,354	106,792	20,576	966,010	970,202	(5,019)
NORTHEAST	311,597	155,726	3,825	476,119	494,519	6,101
NORTHWEST	2,244,725	674,889	113,902	3,076,666	2,895,088	540,482
PCA	1,985,146	173,770	84,378	2,304,381	2,139,596	130,390
TWA	7,189,481	2,375,203	689,204	10,490,785	9,192,481	1,009,003
UNITED	10,052,672	4,594,630	861,061	15,814,761	10,738,957	4,890,225
WESTERN	1,159,701	163,459	57,593	1,454,580	1,388,612	68,458
TOTALS	\$48,510,730	\$14,759,077	\$3,554,666	\$68,341,949	\$54,206,757	\$14,835,912
Corresponding Six Months of 1943	\$40,572,168	\$12,110,825	\$4,230,070	\$58,539,379	\$42,794,741	\$16,722,364

(Parentheses indicate red figures.)

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817,837
880,552
237,162
030,666
392,465
066,535
149,529

377,781
495,111

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522)
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907)
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019)
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944

SINCLAIR 100-OCTANE

*fuels 2000
bombers daily*

BOMBERS fly faster and farther with bigger bomb loads because of their 100-octane fuel. Sinclair Refineries make enough of this super-gasoline to keep 2000 medium bombers on daily raids over Germany. Right now the Army and Navy take all 100-octane gasoline. But after the war Sinclair's big production will be available for commercial and private flying.

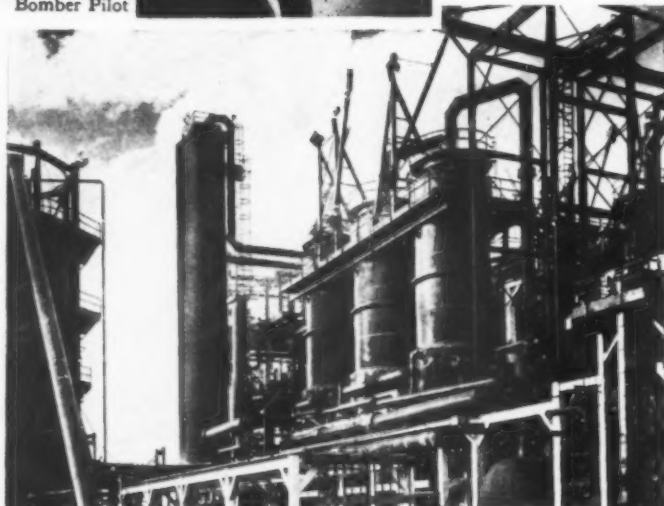


BIG GUN BOMBER. This is a B-25 Mitchell and it packs 75 mm. cannon in its nose. Pilot at left.

Official photo U. S. Air Force



Bomber Pilot



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rate reduction put into effect by the carriers during the latter part of 1943.

Biggest profit for the first six months of 1944 was shown by United Air Lines, reporting \$4,890,225 before U. S. income taxes. The next three, in order, were American with \$3,667,714, Eastern with \$2,349,552 and TWA with \$1,009,003. Together, these four carriers showed profit of \$11,916,494 out of the total profit reported for the 19 lines of \$14,835,912.

Three airlines reported losses for the period: Colonial, \$14,907; National, \$5,019 and Caribbean Atlantic \$522. The latter company has not yet had its air mail pay set by the CAB, and therefore has received no revenue from this source. It performed 1,555,310 pound-miles of mail service during the first half.

The general increases in traffic during the first half of 1944 over 1943 were possible because of increased utilization of equipment and the return of some airplanes to the airlines by the Army.

Army, Navy Report Success With Take-off Boosters

ROCKETS are being used successfully at Wright Field in helping heavily loaded planes into the air, according to an announcement from the Army Air Forces Materiel Command. The AAF emphasizes, however, that the tactical utility of the take-off units in use is "extremely limited."

As opposed to the jet propulsion engine, which takes its oxygen from the air, the AAF's rockets carry their own supply, making them theoretically capable of flying above the oxygen level. Two types of take-off units have been developed: the fixed and the droppable. Attack planes have been equipped with the fixed type,

JET PROPULSION devices attached to the wings have reduced take-off runs of Navy Carrier-based planes and flying boats 33 to 60 per cent, the Navy announces.

By using the units, known as "Jatos" (the Navy's abbreviation for jet assisted take-offs) each of which delivers a thrust equivalent to about 330 horsepower,



Army Bomber



Flying Boat

fighter planes can cut their take-off in half and get into the air much more quickly than in conventional operation.

"This means that Navy carriers can use more deck space for planes and get more planes, more heavily loaded, into the air sooner," the Navy reported. "It means that the planes can rendezvous more quickly to attack or defend, and it means safer take-offs."

"Land-based Navy and Marine fighters and bombers can use the little island air strips safely and can scramble in a hurry, even without wind, in defense of newly-won positions."

Possibility of Electric Motors in Planes Seen

The use of electric motors to power multi-engine aircraft of the future, thus enabling the planes to carry greater loads for longer distances at a substantial saving in fuel was outlined to members of the American Institute of Electrical Engineers meeting in Los Angeles Aug. 30.

Use of the electric drive would eliminate much of the drag caused by engine nacelles built in the wings or by engine and propeller mounted in the nose of the fuselage. The predictions were made in a paper presented jointly by Lt. Col. T. B. Holliday of the AAF, William L. Berry of Hughes Aircraft Co., and Frank W. Godsey of Westinghouse Electric and Manufacturing Co.

With electric drive, the power plant—consisting of new high-speed power sources and electric generator—could be placed in the fuselage of the plane, and would make possible the use of pusher-type propellers located at the rear of the wing.

Chief disadvantage of the electric drive would be increased power plant weight, lower efficiency between fuel tank and propeller shaft and increased cost of the power plant.



Navy Fighter

with the nozzle emitting the gaseous flames from the rear of the engine nacelle. Heavier planes have been equipped with droppable rockets attached to the under side of the wings. This type has been dropped by parachute and salvaged for use again.

On the big flying boats, the length of the take-off run can be cut materially, thus answering one of the biggest problems of flying boat operation, or, if preferred, the planes can be put into the air with much larger loads than normally carried.

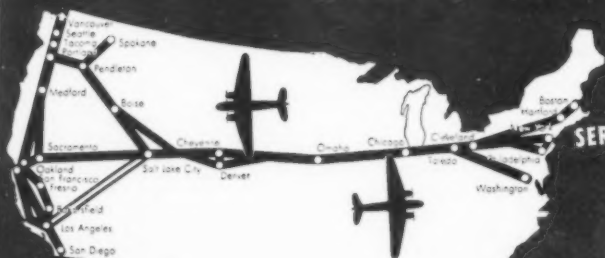
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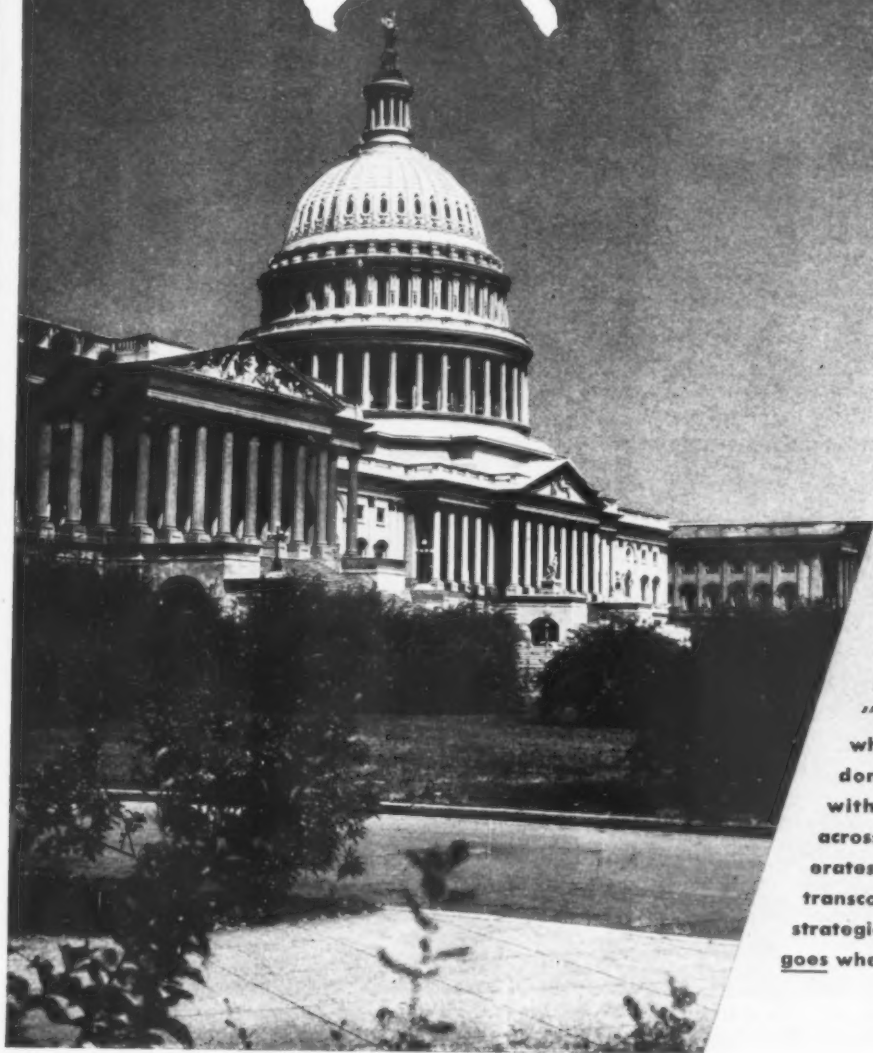
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Victory is the biggest business on earth today. And Washington, D. C., is "business center" of the whole world's fight for freedom. Linking Washington with forty-three key cities across the country, United operates over the nation's oldest transcontinental route. Straight, strategic, The Main Line Airway goes where business is.

Swedes Convert Three B-17's Into Airliners

Fortresses Interned After Being Forced Down; U. S. Agrees

HOW A. B. Aerotransport, the Swedish airline, has spent over \$150,000 rebuilding three interned U. S. Flying Fortresses into comfortable 14-passenger airliners was told for the first time last week by Per Norlin, vice president of ABA and president of SILA (Swedish Intercontinental Air Lines), the company formed for Swedish overseas air operations. Norlin is visiting in the U. S.

An undisclosed number of Boeing B-17s have been forced down in Sweden during the war, and this neutral country has interned both airmen and airplanes. At the same time that these airplanes were idle, ABA was searching for suitable equipment to augment its depleted fleet, depleted because two of its five Douglas DC-3s had been shot down by German aircraft.

The result was an agreement under which the U. S. government loaned to the Swedish government, and the latter in turn loaned to ABA, five Flying Fortresses. Three were to be converted, two were used to furnish spare parts. Technically, the planes are the property of the U. S., but after the war ABA is to be given the opportunity to purchase them outright.

Conversion of the three planes was done by ABA and the Swedish aircraft factory at Linköping. A door was added in each plane, and a window for each passenger. The cabin was divided into two sections, one with eight individual seats, the other with two sofa-type seats, facing each other across the cabin and each seating three passengers. All armament was stripped from the planes. soundproofing was added, heating equipment installed, and the nose of the ship

lengthened by about three feet—to utilize tail space without disturbing the center of gravity, and also to furnish a cargo compartment of 1.8 cubic meters. Swedish radio equipment was added to the U. S. equipment already installed, and instruments were relocated for the convenience of Swedish pilots.

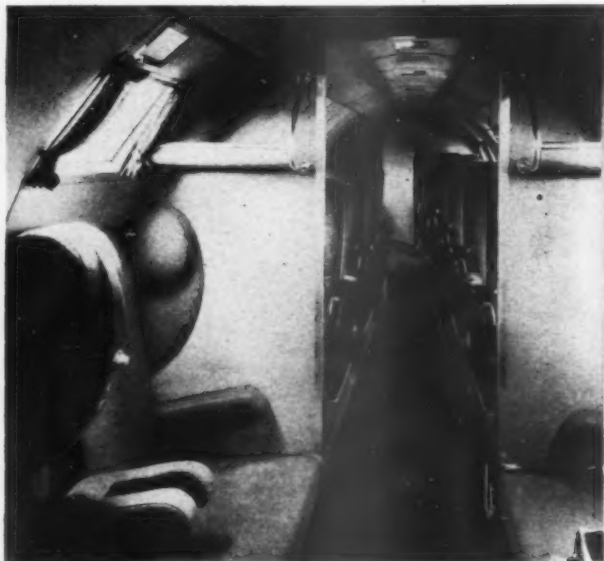
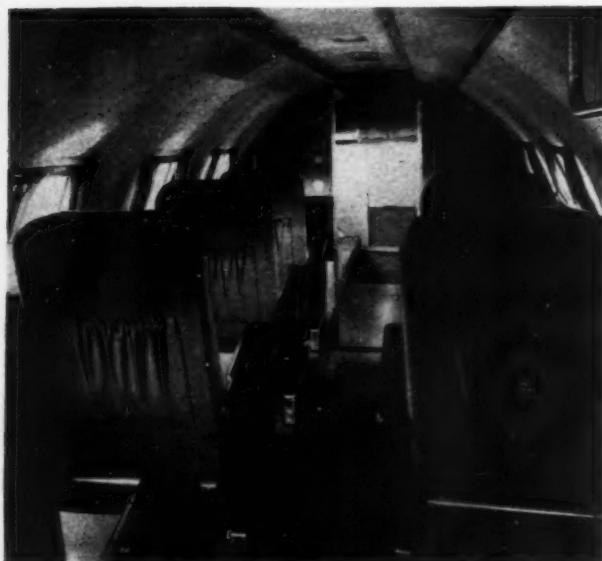
A method was also devised for carry-

ing cargo in the bomb bay. In loading the cargo, only one door of the bomb bay is opened. An electrically-operated lift hoists the cargo up into the bomb bay, where it is loaded onto the other door, which has remained closed during the operation.

The result of the Swedes' work is a comfortable airliner which can carry 14



How the converted ABA Flying Fortress differs from a fully-equipped U. S. B-17 can be seen from the above photos. The Swedish plane, in the top picture, has an elongated nose, turrets have been removed, and radio equipment added. No changes were made in the Wright engines. Back of the wing can be seen the windows that were added by the Swedes. Plane in lower photo is a U. S. B-17F. This was taken before installation of a chin turret.



The photo on the left, taken from the rear of the passenger cabin, shows how the interior of the ABA Fortresses are divided into two sections, the rear one containing eight seats (five on the left, three on the right), and the front one, through the open doorway, seating six. Photo on right was taken from the front compartment. All seats were built by ABA and the Swedish aircraft factory.

T'S

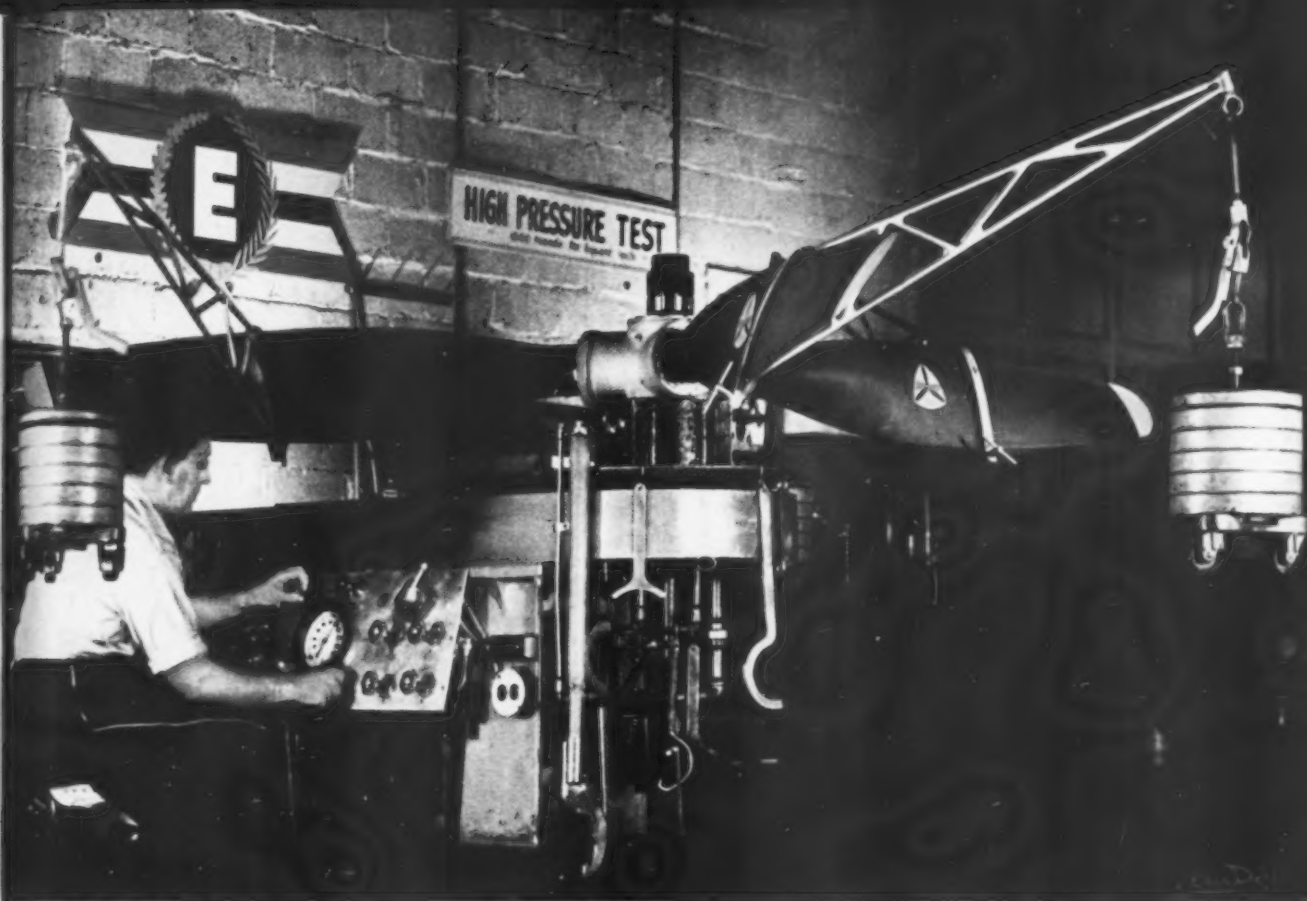
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Tested for Flight!

AT MORE than a thousand points along the production line the Aeroprop is inspected and tested. But before it "graduates" for fighting service the completed propeller is put through paces more strenuous than those imposed by actual combat flying.

The High Pressure test illustrated here is typical. On a special test machine an employee checks the pitch change mechanism of an Aeroprop. Working against twice normal pressures, the blades must turn surely, swiftly, precisely through every degree of pitch from low-pitch to full-feather. If they will do it on this machine—and they *must*—they will function efficiently under

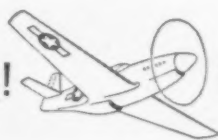
all conditions encountered in flight.

Making this kind of propeller, and making it this way, calls for skills of highest order. Making Aeroprops in the quantities now required demands large production facilities. Aero-products combines both. The character of the work produced by these men and

these machines is best described by this fact: To date mechanical failure is virtually unknown on the thousands of Aeroprops that are flying in the service of the Allied Nations.

This record, important now, will also be important in the age of peace-time flight.

KEEP 'EM FLYING!



BUY BONDS!

Aeroprop



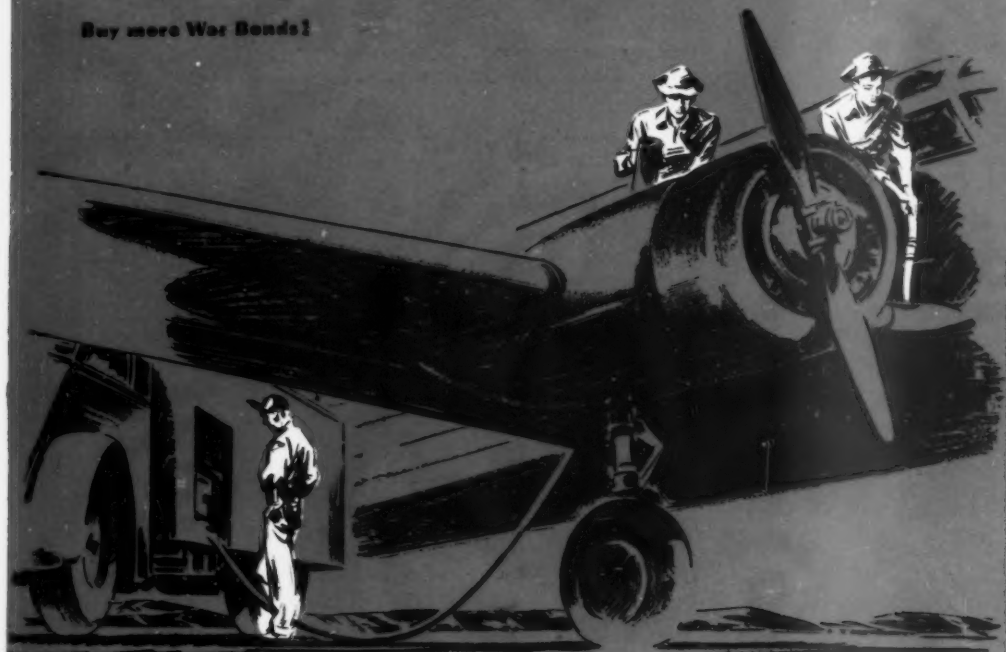
In War and Peace, Propeller Production at its Best!



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Buy more War Bonds!



Routine servicing for the Jacobs ...

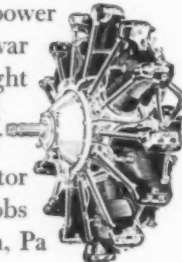
- 1) *Add gas as needed...*
- 2) *Bring oil up to gauge levels daily...*
- 3) *Forget it...*

And that's about all a Jacobs needs for six months or so!

After a thousand flight hours, some Jacobs engines need a major overhaul—and some don't. (AAF regulations once specified 350 hours maximum, were relaxed by degrees.) And a major overhaul usually shows some worn piston rings, and a few minor replacements... Because these engines are designed right, with the fewest possible parts, which fit and function perfectly; were proved and improved in pre-war commercial flying; and have added stamina, as materials improved.

In instruction flights, the Jacobs get more take-offs, more time at full throttle than any engine in combat service—or in commercial operations! And even with student handling, deliver dependably for six months or more between major overhauls.

THE war record of this engine rates Jacobs as an important factor in postwar flying, private or commercial... Largest makers of aircraft engines of medium power rating, Jacobs will have postwar models fit for anything from light planes to cargo carriers... and well worth the consideration of plane owner and airline operator... Inquiries are invited... Jacobs Aircraft Engine Co., Pottstown, Pa



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passengers, a crew of four (two pilots, wireless operator and engineer) and 6,600 pounds of cargo over a distance of 1,100 miles. The planes are now being used on the Stockholm-Scotland route (one way fare, \$140) but it is also planned to use them elsewhere.

The conversion took three months for each plane, and the cost is estimated at \$50,000 per airplane, exclusive of design cost.

Because the Swedes did not believe that "Flying Fortress" was an appropriate name for a passenger liner, the planes are now known as the "Felix," Felix being the first name of the U. S. air attache in Sweden, Col. Felix Hardison. Each of the three planes has been given a name—the first one, formerly known as "Sacktime Susie," has been renamed "Sam"; the second, "Tom" and the third, "Jim."

Due to the unusual circumstances under which the planes were acquired plus the fact that they have been in operation only a short while, ABA is as yet unable to say whether the converted Fortresses are economical airplanes for commercial operations.

Norlin states that the Swedish pilots are enthusiastic about the U. S. planes and enjoy flying them.



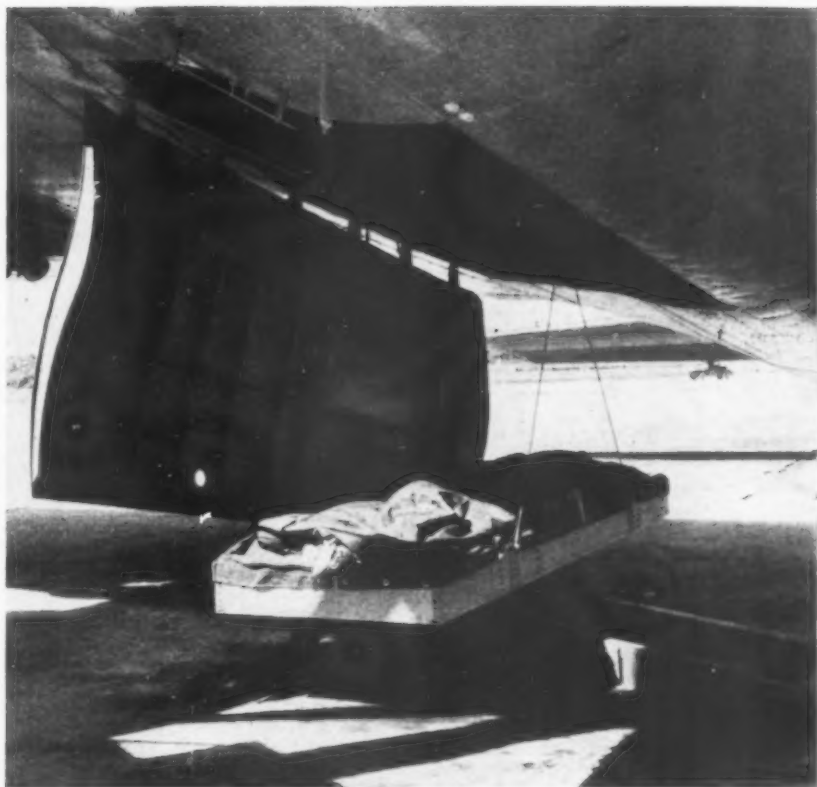
This photo shows the radio operator's station. ABA added its own radio equipment to the standard U. S. equipment already installed.

Life Insurance Companies Cut Air Travel Restrictions

Most life insurance policies after the war probably will contain no limitation on flying risks, a survey of 200 leading insurance companies indicates. The survey, conducted by the Institute of Life Insurance, revealed that almost half of the companies now issue standard policies containing no airline travel restrictions, at regular rates regardless of the amount of commercial airline travel contemplated. The remaining companies impose no restrictions unless the applicant expects to do an unusually large amount of such flying. A few companies restrict trans-oceanic and other travel outside the United States and Canada.

Navy Accepts 57,600 Planes

The Navy has accepted a total of 57,600 planes, or 20 times as many as were in its prewar air force, since the outbreak of hostilities in Europe five years ago, Secretary Forrestal told a recent press conference.



This electrically-operated lift hoists cargo through one doors of the bomb bay. Once inside, the cargo is shifted to the righthand door, which has remained closed during loading.

British Announce 'Seafire', 'Sea Otter' Planes

The British Navy's newest fighter plane, the Seafire III, which made its first operational appearance on D-Day, is intended to be used with British naval forces in the Pacific.

The British Supply Council reveals that the plane, first Royal Navy aircraft especially equipped for taking reconnaissance photographs, proved successful in the Normandy and Southern France invasions, obtaining intelligence material and aiding in directing the fire from British and American ships at sea.

The Seafire III, scion of the Spitfire, is a single-seat low wing monoplane with folding wings, designed by Vickers Armstrongs (Supermarine) and powered with a Rolls Royce Merlin 55 of 1470 hp.

It normally operates from aircraft carriers and is fitted with arrestor and catapult gear. The armament consists of two 20mm cannon and four .303 Browning guns. Dimensions are: span, 36' 8"; length, 30'; height, 8'; wing area, 242 sq. ft.; and weight, about 8000 lbs.

The British also announce a new single-engine amphibian biplane, the Sea Otter Mark I, designed for naval spotting reconnaissance and air-sea rescue duties. It is a replacement of the Walrus. It has a Bristol Mercury of 870 hp. The main planes fold. Armament is three Vickers .303 "K" guns. Bombs or depth charges are carried. Dimensions are: span, 46'; length, 39' 4"; height, 16' 2"; wing area, 610 sq. ft.; and weight, about 10,000 lbs.



Seafire III



Sea Otter Mark I

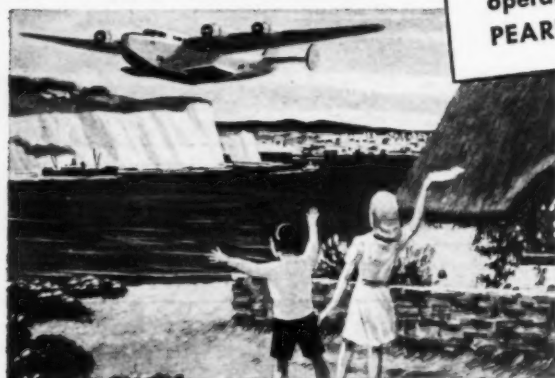
How PAN AMERICAN has carried the U.S. Flag to 5 continents since 1927



1927—to LATIN AMERICA—the first step toward giving both coasts of South America the reliable air service they enjoy today.



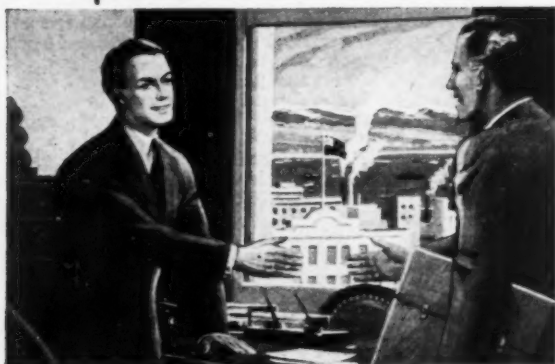
1937—to CHINA—Pan American established the first regular, scheduled air service over any of the earth's major oceans.



1939—to EUROPE—Pan American extended its routes across the North Atlantic, establishing scheduled air transport service to Southampton, England, and the European mainland.



1940—to ALASKA—regular service by Pan American was started from the United States to this great Territory, following the first Arctic survey flights made by any U. S. airline.



1940—to AUSTRALASIA—Pan American Clippers turned Southward from Hawaii to Noumea and Auckland, New Zealand . . . Our far-away, English-speaking friends throughout Australasia were brought closer by weeks.



1941—to AFRICA—by pioneering a South Atlantic Ocean route and building a trans-Africa skyway in 61 days, the groundwork was laid for the vital war traffic that followed later.

—and this world-wide system of 98,000 miles was in operation BEFORE PEARL HARBOR

PAN AMERICAN WORLD AIRWAYS
The System of the Clippers



Life Line

OF A U. S. ROYAL on the Flagship Fleet

Every tire that ever flew on an American Airlines Flagship has its own life line or Tire Log filed away where it can be referred to instantly. From the day that a 17.00 x 16 U.S. Royal Airplane tire is mounted on a Flagship until it is removed for recapping and finally discarded after having given its full service, the Maintenance Division of American Airlines keeps its life history hour by hour and plane by plane.

Even with the greater loads, the heavier schedules of today's air transport, American is getting an average of $3\frac{1}{2}$ times as many landings from a single set of tires in 1944 as it did in 1941.

As synthetic rubber airplane tires with bodies of rayon replace natural rubber tires, the backlog of test experience already accumulated by American and recorded on Tire Logs will be of vital importance to airplane tire manufacturers. Benefiting from data like this, U.S. Airplane Tire engineers are finding new and better methods and materials to build lighter, stronger, safer tires.

With Flagships landing on an average of once every hour instead of once in two hours and with pay loads 50% greater than in 1941, these U.S. Royal Airplane tires have a bigger job to do than ever before—and they are doing it!



In the Record Section of American's Maintenance Department, every tire has its own Tire Log. From the ship's log, the record clerk transposes each step in the tire's life from original installation to final removal.



This is the Life Line of a U.S. Royal that made better than 700 landings before it was sent to the "U.S." Tire Factory at Detroit for recapping. If the tire body is still in good condition, a new tread will be applied and the tire put back in service.



There is a Tire Log on file for every tire that ever flew on an American Airlines Flagship. From these records, data are supplied to airplane tire makers helping them to design stronger airplane tires to carry the greater loads of today and tomorrow.

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New Policy Committee Head Asks Open Foreign Hearings

Public Airing Sought By Royce Before U. S. Changes World Plans

PUBLIC HEARINGS at which interested citizens have the opportunity "to appear, to listen, to testify openly and, if testifying, to be openly questioned," must be held by the aviation subcommittee of the Senate Commerce Committee before any change in U. S. international air policy is made, Alexander B. Royce, new chairman of the Airlines Committee for United States Air Policy, asserted Aug. 31.

Royce, who has been on leave from the New York law firm of Chadbourne, Wallace, Park and Whiteside to assist the Government in various capacities before joining the committee, met the press as he assumed active chairmanship.

He made public a letter which he had forwarded to Senators Josiah W. Bailey (D., N. C.) and Bennett Champ Clark (D., Mo.) asking for public hearings and asserting that the Senators' Aug. 19 letter to the President (*American Aviation*, Sept. 1) was "in some respects disturbing" to the Committee.

Believes Competition Favored

The letter to the President, he said, "unfortunately has given a wrong impression as to support in the air transport industry for the 'community company' proposal," as proposed by Sen. Pat McCarran (D., Nev.). Only Pan American Airways and United Air Lines have supported this proposal, he said, explaining that the Senators' letter to the President implied more widespread support.

"I'm satisfied," Royce told the press, "that as of today every department of the Government is for regulated competition in international air transportation as far as the United States is concerned and it makes no difference what Russia . . . or other countries will do."

"I'll bet \$500 that Britain doesn't have a single chosen instrument when they get through." Later he added, "Britain will be influenced very greatly by what we do."

He expressed the belief that the armed forces favor regulated competition in international air transportation and that the Army and Navy will turn the overseas air transport job back to the airlines as soon as possible.

Royce stated that his job will be to help in "holding off the attacks that are coming on our position by the monopolists." The "monopolists," he noted, "have been very very busy."

The Clark committee, the new chairman said, in explaining his letter, has been holding "what they call hearings." However, he added, opportunity should be afforded for a public expression of views. "We want them—we demand them before there's any change in the law." He emphasized his belief that Senators Bailey and Clark intend to hold such



Alexander B. Royce

. . . heads policy group.

hearings and "we're ready for them."

Royce praised the Civil Aeronautics Act, stating that it covers international as well as domestic flying and has "all the machinery for putting our planes to work as soon as the war is over."

Speaking of Sen. McCarran's "com-

Transfer of Surplus Sales From CAA to DPC Near

Arrangements are being completed in Washington for the transfer of responsibility for the sale of surplus aircraft from the Civil Aeronautics Administration to the Defense Plant Corporation, RFC. The transfer will go into effect later this fall.

When military aircraft were first declared surplus, the RFC induced CAA to undertake the responsibility for the sales program on a limited basis until the Defense Plant Corp. could set up its own administrative force. CAA undertook the program and used much of the personnel of the War Training Service Division in administering the project. It is understood that a considerable number of WTS personnel will be transferred, on a temporary basis, to RFC in connection with the sales program.

James A. Garfield, chief of the Surplus War Aircraft Division, will head the program. He said field representatives of CAA and RFC would be called to Washington soon to work out the details of the transfer.

Garfield said no change in policy is involved and CAA field offices will continue to carry out plane sales until the actual transfer is negotiated.

Memorial to R. C. du Pont

A memorial to the founder and first president of All American Aviation, Richard C. du Pont, has been established through a gift to Massachusetts Institute of Technology to be used for research in "subjects of practical value to aviation," Halsey R. Bazley, president of All American, revealed in the company's annual report.

munity" company, Royce remarked: "There are 17 airlines who won't join."

In his letter to the Senators, he said: "We offer you our support in the studies you are making. . . . We look forward to the open hearings which we understand your committee will later hold. . . ."

"It is your opinion, apparently, that new decisions may be required on a number of questions affecting our country's international air transport policies. You say 'in these decisions, the advantage of any one airline or group of airlines, must be subordinated to the paramount national interest.' That is why you will find among the airlines on whose behalf this letter is addressed not only companies which are seeking to engage in international air transport but other companies which have no such plans or ambitions. They are all united in the single proposition that our international air transport industry, like our domestic industry, will live and really thrive only by competition, subject to reasonable government regulation."

Boy, 15, Flies 50 Dual Hrs.

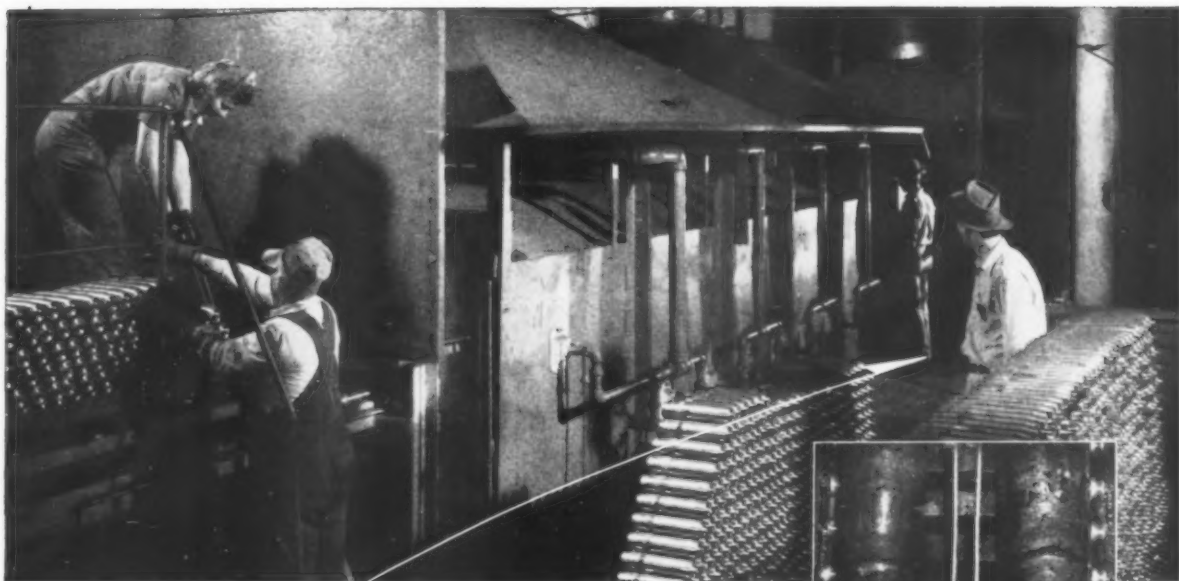
Embry-Riddle School of Aviation, Miami, reports that a 15-year-old boy who has completed a vacation flight course at the school, now holds a probable record for his age of 50 dual flying hours. The boy, Woodrow Duff, son of a prewar automobile dealer in Shanghai, Hong Kong, and Manila, started flying at the age of 10 in Hong Kong, where he had 20 hours of dual flying. CAA will not permit him to solo until he is 16, or receive a pilot's license until he is 18.

Helicopter School Set Up

The nation's first military helicopter training school has been established at Freeman Field in southwestern Indiana with Col. E. T. Rundquist commanding officer. Two Freeman Field officers recently flew two R4-B helicopters 725 miles on the longest formation flight ever made by rotary type planes in this country. They flew from Bridgeport, Conn., to Freeman Field.

Says ATC, NATS to Continue

Donald W. Douglas, president of Douglas Aircraft Co., told 400 key workers recently that he expected the Air Transport Command and the Navy Air Transport Service to stay in business after the war in order to bring back wounded men and to expedite rehabilitation in Europe. Many more transports than the number now in routine service for the armed forces will be required, so that Douglas employees can expect to continue building C-54's for some time to come, he said.



**"With Gulf Super-Quench we get
more uniform hardness
and improved machinability"**

says this shell plant heat treating Superintendent

VARIATIONS IN HARDNESS with conventional quenching oils resulted in unsatisfactory tool life in the machine shop," says the heat treating Superintendent of American Manufacturing Company, Fort Worth, Texas. "With Gulf Super-Quench we get uniform hardness in every shell, which has led to a substantial increase in tool life."

Another heat treating problem solved with Gulf Super-Quench! And additional evidence that it pays to equip your plant with this revolutionary new quenching oil.

Here's why Gulf Super-Quench is a superior quenching oil: It has intensified dual-action—a faster cooling rate through the hardening temperature range, and the slow speed of conventional quenching oil below the hardening temperature range. Call in a Gulf Service Engineer today and let him show you how Gulf Super-Quench can help improve your quenching practice. For your copy of the brochure on Gulf Super-Quench, send the coupon below.

BACK THE INVASION ...
BUY MORE WAR BONDS!



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Brabazon Assails Britain's Policy on Airliner Output

**Warns of Progress
By U. S. in Surprise
Luncheon Address**

"YOU ARE BEING maneuvered off the earth in this country by what is happening. If you are playing for a fall, you are going the right way about it. That is all I have to say to you, Mr. Secretary of State."

Thus Lord Brabazon of Tara, British aviation pioneer and head of the committee which is planning Britain's postwar airliners, summed up and denounced the government's lack of a policy on the production of transport airplanes.

His remarks were dramatic and unexpected, made at a British Overseas Airways luncheon celebrating the 25th anniversary of Britain's first air transport service. Present were Sir Archibald Sinclair, Secretary of State for Air, Dominion High Commissioners, many Air Chief Marshals, and the heads of almost every important British aviation concern.

Sir Archibald Sinclair spoke first, asserting that "some improvement in the rate of progress on the civil aviation side must now be made," and "we would not accept a secondary role in international aviation."

Later, Sir Archibald proposed a toast to Lord Brabazon, and all present expected a conventional reply. Lord Brabazon surprised them, however.

He warned first that the number of large commercial planes needed in the postwar period will be small compared to the size of the aircraft industries in the U. S. and Britain. If BOAC takes 600 planes and the U. S. 1,500, that will about fill the bill, he said.

Disturbed by Situation

He added that, quite frankly, he was not happy about the present situation. His committee had given the government details of the types of aircraft British commercial lines would want after the war. The Secretary of State for Air and the Minister of Aircraft Production had to decide where, when and by whom these aircraft would be built.

BOAC, under its constitution, is forced to operate only with British planes, and the British taxpayer cannot be expected to subsidize BOAC if it used foreign aircraft, Lord Brabazon remarked.

"I say," he continued, "that if you do not look out you will be imposing upon transport operators a disability from lack of suitable machines that will be crippling and almost unfair. If you are going to do anything, teamwork is essential and the present situation is that the manufacturers are itching to get ahead but the Air Ministry and the Ministry of Aircraft Production won't let them get ahead."

"The operators are getting sick of not getting even the promise of British machines of the right quality and are wanting to fly with American machines."

"It is high time that one of the Min-

isters concerned went to America and saw the Consolidated C99 Vultee of 118 tons, as big as our Brabazon I, which is promised for 1949. This American plane is to be delivered next year. The Minister should also see the Lockheed Constellation C89 of 82 tons, promised for April, 1946, and the Douglas DC-7 of 72 tons, which has 3,000-horsepower engines and is promised for March, 1945.

"Where are our 3,000-horsepower engines?"

"If that is happening in America, how can you take the attitude that transport machines are not a war effort? You are being maneuvered off the earth in this country by what is happening. If you are playing for a fall, you are going the right way about it. That is all I have to say to you, Mr. Secretary of State."

Concludes Amid Cheers

Lord Brabazon concluded his speech amid "great cheers," according to London reports. The *Daily Mail* said: "Sir Archibald, unable to reply, listened white-faced to the tirade of his former colleague in the Cabinet."

Lord Brabazon made his remarks only a few weeks after Capt. Harold Balfour, Under Secretary of State for Air, had assured the House of Commons that Britain's first postwar air transports would have equal priority in design and production with military machines, with the exception of certain designated types. (*American Aviation*, Sept. 1).

London newspapers devoted considerable space to the luncheon sensation. Said the *Daily Mail* in an editorial entitled "Failure:" "The complete failure of the government to make any plans for British civil aviation after the war was proved yesterday." Sir Archibald Sinclair stated that Britain would not accept a secondary role in international aviation "when all the evidence shows that the British government have already accepted it," the paper said.

"There is no use disguising facts. The American aviation industry plans to make the sky the limit. It is looking forward to a time of unrestricted competition in which, thanks to British official supineness, it may secure nearly a monopoly of all the chief international air routes."

"We are not entitled to complain about that, and in any case it will not be worth our while making any postwar agreements sharing out of the world's air services if Great Britain has no machines to put on them."

"What we do complain about . . . is the refusal of the government to allow British aviation any chance at all even of competition. If Sir Archibald Sinclair is not responsible for this state of affairs, who is? Let him tell us. Let us know where the blame rests."

"In other times such default might well have been sufficient to bring a whole government down."

Writing on the day of Lord Brabazon's speech, Colin Bednall, air correspondent for the *Daily Mail*, said: "It is believed in aviation circles that the government will shortly be obliged to reveal a very

Prominent Briton Inspects PCA Hangars in Capital



Mrs. Elliot

Mrs. Walter Elliot, member of the Women's Advisory Committee to the British Ministry of Labor, was a recent visitor at Washington's National Airport. She was enroute to Australia by air to lecture on mobilization of women in England. She in-

spected the maintenance hangars of Pennsylvania-Central Airlines while in Washington.

disturbing situation in regard to post-war air transport.

"This applies both to the progress of talks with the United States on the allocation of international air routes, and the production of British aircraft. In both cases serious disappointments are threatened."

"I understand that in recent conversations the American government has shown itself increasingly insistent that American airline operators must not be restricted in their expansion plans, which are a little short of breathtaking. . . ."

"Any international agreement now will probably be for a form of benevolent international control designed primarily to police such matters as safety standards and not to allocate 'spheres of interest.'"

Charges Public Misled

He also stated that, "It is . . . becoming obvious that the public has been misled as to the progress of British air transport preparations. In some cases it may have been unwitting deception, but it was there all right."

Referring to a statement by Capt. Balfour that " . . . I saw the Brabazon I prototype last week at Bristol . . . " Bednall said: "In actual fact, the so-called Brabazon I prototype, far from being in existence at the moment, has little hope of being completed before 1948. What the Minister saw was the plywood 'mock-up' of a suggested layout for the Brabazon's passenger accommodation. This is a vastly different thing to a prototype complete with power units and ready to fly. The Brabazon I is intended to be a 100-ton Imperial mainliner, and I doubt whether the power units necessary to drive it are even in existence yet."

Ferry Service Fete

A reception in honor of the Return Ferry Service, operated by the British Overseas Airways Corp., on completion of its thousandth North Atlantic crossing was held in the Windsor Hotel, Montreal, Sept. 8. The reception was given by the Air Officer Commanding No. 45 (Atlantic Transport) Group of the Royal Air Force Transport Command. The British Air Ministry on Sept. 24, 1941 requested BOAC to assume responsibility for bringing back to Canada the ferry crews of American and Canadian-built aircraft which were being delivered to Britain by the Royal Air Force Ferry Command.



U. S. ARMY
OFFICIAL POSTER

"Many a gravely wounded soldier owes
his life to speedy air evacuation by the
same giant C-54 Skymasters which flew in
the men and materiel that so often have
turned the tide of battle."

Army Air Forces report

**Give us
MORE C-54's**



"TO THE LIMIT OF OUR ABILITY."

This poster, prepared by the Army Air Forces and placed by them in each of the big Douglas plants turning out C-54s, is a tribute to a great airplane and to the workers who are building it. With this tribute comes a challenge. The entire Douglas organization, already engaged in the night and day production of planes for Victory, has only one answer to the Army's appeal for more C-54s..."it shall be done...to the limit of our ability."

**YOUR WAR BONDS
BUY MORE C-54's**

First AROUND THE WORLD · *First* THE WORLD OVER



Douglas
AIRCRAFT

Letters from Biddle, Hull Indicate They Oppose World Monopolies

Cabinet Members, In Answer to Bailey, Rap Mc Carran Bill

STRONG INDICATIONS of opposition to the "chosen instrument" theory of U. S. competition in postwar international aviation, especially on the part of the Department of State, is revealed in letters which Attorney General Francis Biddle and Secretary of State Cordell Hull have sent to Senator Josiah W. Bailey, (D., N. C.) chairman of the Senate Commerce Committee. The letters were in response to Sen. Bailey's request for comment on the McCarran bill (S. 1790) which calls for the creation of an All-American flag line to represent the U. S. in foreign competition.

The letters commented specifically on those portions of the McCarran bill which concern the two departments. The State department letter takes strong issue with the idea that other nations have adopted a "chosen instrument" because such an instrument is better, per se, than regulated competition. It also maintains that the U. S. Government and not a private company, should handle almost all negotiations with foreign countries.

The Attorney General's letter has this to say about competition: "While the legislation (S. 1790) would not exclude other American airlines from engaging in foreign air transportation, nevertheless the 'All-American Flag Line, Inc.' would receive financial and other support from the Government to an extent that is likely to exclude competition.

"These provisions of the bill involve a fundamental question of legislative policy in which the Department of Justice is directly interested because of its responsibility for the enforcement of the Sherman Act. I venture to suggest that the Committee should consider very carefully whether the proposed plan will promote the progressive development of international commercial aviation and, more particularly, whether it will promote the development of vigorous and efficient American air commerce in the international field. In this connection, I also suggest that the committee may wish to weigh the suggestions made by the Secretary of State regarding this aspect of the bill."

Basic Issues Tackled

Other portions of the letter deal with detailed matters not involving broad general policy.

In much more vigorous fashion the State Department letter tackles basic issues. These basic portions read:

"It is noted that one of the main purposes of the bill is to establish an All-American Flag Line, Inc., which presumably would become the single or at least the dominant instrument in the field of United States international air transport.

"The Department considers that the question of whether our international air services shall be carried on by a single company or by several companies is primarily a domestic matter. At the same time, a number of considerations relat-

ing to that question may be of interest, and the Department accordingly feels at liberty to offer certain comments.

"It is often assumed that most of the leading nations have adopted in full measure the single company principle, and that this was done because of unsatisfactory experience with other alternatives. As a matter of fact, the experience of other countries is so varied that very few definite conclusions can be drawn.

"Some countries adopted the monopoly policy not only for their international air services but for their domestic air services as well. These include Germany, Union of Soviet Socialist Republics, Japan, Belgium, Sweden, Poland, Norway, Denmark, Spain, South Africa, Finland, Greece, Rumania, Hungary, Yugoslavia and Eire.

Traces British Policy

"With respect to international operations, Great Britain (after the formation of British Overseas Airways Corp. in 1940) also could have been included among the countries adhering to the single-company policy, except for the continued existence of certain small unsubsidized British-flag lines to the continent and to Eire. France, Italy and the Netherlands subsidized their international services through more than one company, although in general their routes did not duplicate each other. The United States, Canada, Australia, India, Brazil, Mexico, Argentina and Peru have followed the policy of regulated competition with respect to domestic air services, but this principle was not extended by all of these countries to their international operations.

"The countries which, prior to the war, concentrated on one or two companies may be grouped into three categories: (1) those having a basic political philosophy favoring state monopoly; (2) those with small geographic homeland areas and distant or widely separated colonial possessions; and (3) those whose

financial resources did not permit them to support more than one enterprise.

"The United States does not fit into any of these groups. On the contrary, our predominant position in world aviation has been achieved through the competitive system; our country is so large that it offers an ideal laboratory for technical and other improvements, and our foreign operations are not intended primarily to connect our outlying possessions; and we are not prevented by limited finances from obtaining the benefits of regulated competition among several companies.

U. S. 'Free to Decide'

"This country is therefore free to make a decision either for regulated competition or for monopoly, depending on its estimate of the effect of such decision on future development of its aviation industry and its air commerce.

"It was possible for foreign airlines to compete in the material aspects against a single American company in South America; thus by using night flying prior to the war, the French line (Air France) and the German Condor Lufthansa, were at one time carrying air mail between Buenos Aires and Europe in three and one-half days as contrasted with the six days required for the service between Buenos Aires and Miami, which was operated by an American company—the distance being approximately the same.

"The experience of most other countries which have adopted the monopoly or so-called 'chosen instrument' policy has been that such a policy, either intentionally or by sheer force of gravity, led to a government-owned system, or else to a system so completely government-controlled as to have all the qualities of government-ownership. In the cases of Great Britain, France, Italy, the Netherlands, Germany, Sweden, and Japan, the airlines started out as private ventures but were subsequently taken over by the State. The regularity of this tendency suggests that determination to accept or reject the 'chosen instrument' theory might well turn upon whether it were desired to accept or reject the probability of government ownership, or of government control tantamount to it.

Commends U. S. Airlines

"In respect to the relation of a single instrument to the national defense, it is to be noted that Great Britain has made extremely effective use of the single government-controlled British line; equally, the United States has found it possible to use a number of lines; and that all of the American lines in question have reached a high level of operating efficiency over far-flung world routes."

In regard to the Government handling negotiations, the letter says:

"At present the Department and the Civil Aeronautics Board share the opinion that negotiations with foreign governments concerning aviation rights should be undertaken by the Government rather than by individual air carriers, although it is recognized that there may be instances wherein exceptions to this principle should be permitted. The statement is sometimes made that landing rights can be obtained by an individual company without committing its Government, but this argument is to a large extent outdated and was valid only so long as the foreign government concerned had no interest in having its



Eight-Gun Nose—The new nose of North American's B-25 Mitchell bomber now is studded with eight .50 caliber machine guns, boosting its armament to 18 guns in all.

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"Night-letter" cargo for bonus payloads

Variations in rail traffic are met simply by adding or removing cars. But the fixed capacity of an airplane demands full loads for maximum economy.

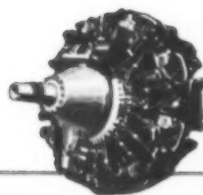
A constant backlog of air express for deferred departure at "Night Letter" rates offers one possible means of achieving capacity loads. Shipments could be bulked for common destinations to fill in on non-capacity flights leaving within a few hours. Such a service could assure second morning delivery virtually anywhere in America.

The reduction of air cargo rates will necessarily be a gradual, cut-and-try process. The "Night Letter"

plan would be in essence a "commodity" rate on space available on off-hour flights and would not entail wholesale rate revision.

Wright believes that the full load is the key to the gradual reduction of all air traffic rates. To that end, Wright Cyclones offer a payload bonus of one or more passengers in the weight of each engine. With lower fuel consumption and maintenance costs, world-wide operation demonstrates the fact that Wright Cyclones pay their way.

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**SAYS GEORGE R. CUSHING
OPERATIONS MANAGER
DELTA AIR LINES**

"The value of a pound of pay load during the life of an airliner has been variously estimated. The exact value will, of course, vary with the degree of utilization of the equipment.

"Certainly, during this period of capacity loads, every pound which can be saved has a high monetary value, and *will at times be priceless.*

"A few pounds saved may mean that another soldier gets home for his last leave, that another war-valuable shipment of express gets through on time, or that another sack of mail can go aboard. In Delta we prefer not to express such things in dollars and cents."

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- Will be standard on commercial planes after Victory.
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HEX NUT**
(W6S. 8-32)

The comparable fiber-collar nut is 96.4% heavier than this all-metal self-locking steel nut.

carriers fly to United States territory. In general, reciprocity is inherent in the acquisition of any foreign landing rights, even if they happen to be requested by an individual company. This is evidenced by the present tendency among leading nations to recognize that the interest of their national air carriers abroad can best be protected through inter-governmental negotiations. Incidentally, this prevents a foreign government from 'playing off' one company against another.

"Another point to be considered is the disparity which sometimes exists between national policy and the activities of individual companies. Pan American Airways System, when it was the single American company in the field of international air transport, usually followed the practice of negotiating with foreign governments as an individual company. With the advent of the war, however, some of the arrangements which the company had made proved to be a deterrent to our war effort and were therefore not in the best interests of this country. While it is assumed that arrangements which would be negotiated by the proposed All-American Flag Line, Inc., would conform more closely to our national interests, the freedom delegated by the bill to such a company to undertake its own foreign negotiations might still result in a situation which would be not wholly compatible with Government policy or the public interest.

Negotiations 'Not Difficult'

"The Department foresees no difficulty in negotiating with foreign governments on behalf of a single company should this principle be adopted, but it likewise anticipates no difficulty in assisting individual air carriers to operate abroad provided they are duly certificated by our aeronautical authorities.

"For the above reasons, it is believed that the Secretary of State should be free to negotiate agreements with foreign governments for the benefit of United States air carriers in general and should not be bound to negotiate for one carrier only; and that there should be no legislative mandate which would place the Department's facilities at the sole command of a single company without allowing any discretion to the Secretary of State.

"Section 902 (e) provides that foreign agreements described therein are not to be entered into except by treaty. Section 902 (e) as now drafted would not only make it difficult for this Government to participate in certain informal arrangements permissible under the law, and desirable for the development and smooth functioning of international air navigation, but also would deprive the Executive Branch of the Government of the exercise of reasonable discretion in the conduct of foreign affairs. The Department does not desire to take out of the treaty-making procedure matters which are properly subject thereto. However, it is necessary that this Government should be able in all appropriate cases to participate in international arrangements for the regulation of technical and operational aspects of international aviation without the conclusion of a treaty."

2 Popular Journals Take Travel Polls; Airplane Popular

Looking toward a postwar boom in travel, *Time, Inc.*, recently completed a poll of 401 domestic travel agents to determine where and how the postwar tourist will go.

More than 10% of the travel agents polled believe that half of their postwar customers will travel by air. Thirty-six percent reduced this estimate to one-fourth, while 29% feel that one-tenth of their tourists will fly.

The airplane will lead all forms of transportation in U. S.-to-Mexico travel, the agents believe, and will run a close second for American travelers to South America. On Pacific Island trips, about a third of the agents anticipate a steamer-plane combination to handle tourist traffic. The agents think trans-Atlantic air routes will be patronized mostly by the business traveler.

Two-week vacationers with a yen for Paris will be forced to the air, the agents believe, but they will hardly form a large part of European tourism.

In this same vein, a recent opinion poll by the *Woman's Home Companion* threw some light on the attitude of women toward postwar air travel. Sixty-eight per cent of the women under 25 polled, for example, thought they would fly to Europe after the war if the round-trip fare was \$200, while 80% of this age group expressed a desire to fly to South America.

A total of 92% of the under-25 age group expressed no objections to members of their families owning an airplane after the war, and 65% expressed a desire to learn to fly.

As the ages of the groups polled advanced, however, less enthusiasm was expressed for over-water flights, but the

1 Out of 5 Minnesotans Want a Plane; 1 Out of 4 Would Like to Fly One

One out of five Minnesotans would like to own a plane, and one out of four would like to learn to fly, the Minnesota Poll of Public Opinion conducted by the *Minnesota Tribune* reports.

"While these findings cannot be taken as an accurate forecast of the number of persons who actually will be flying planes in Minnesota after the war, they point to widespread public inclination to take to the air," the survey reported.

Projected into the 735,000 families in Minnesota, the poll indicated that more than 154,000 families would like to own planes. By contrast, there were 556 planes and 2,628 pilots in Minnesota on Jan. 1, 1944, and a peak of 833 aircraft Jan. 1, 1940.

L. I. Schroeder, Minnesota aeronautics commissioner, predicts 6,000 planes for the state in the postwar period, compared with a CAA estimate of 10,000. Schroeder is assisting communities in fitting their airport plans into a state program and is encouraging development of scores of flying field projects.

desire to own aircraft and to learn to fly maintained a high level.

The *Woman's Home Companion* poll showed that among women 45 or older, only 34% wanted to fly to Europe, and 44% to South America. In this same age group, 85% had no objection to airplane ownership, and 84% expressed a desire to learn to fly.

An immediate postwar boom in domestic travel was forecast by the travel agents polled by *Time*, but they estimated that it would be from two to five years before European tourism could hit its stride because of the necessity for postwar reconstruction, and the reestablishing of friendly relations with all foreign countries.

Although the development of worldwide air transportation systems was one of the four leading factors cited by travel agents as contributing to the anticipated postwar travel boom, they qualified their expectations in this field with the necessity of lowered fares.

"New places, new people, new interests and new money spell increased travel" in the postwar period, says the *Time* survey, but "it is the new ways of traveling that have marked sudden changes, contributing to the progress of man.

"After the war, world air routes, slicing the globe in a thousand different directions, will set the revolutionary pace."

Foreign Air Mail Service Hits High Mark in Past Year

Foreign air mail service has expanded to 19,500,000 miles flown in the fiscal year ended last June 30—slightly more than 53,000 miles a day, Postmaster General Frank C. Walker told the San Francisco Junior Chamber of Commerce in an address Sept. 8.

"Due to the war, the schedules of foreign air mail routes are not published but it may be stated that the frequency of service to most destinations is better than at any time in the history of the foreign air mail service. This applies particularly to service to countries in Central and South America and the West Indies."

In the nine years of government operation of domestic air mail service (1918-26), Walker said the cost was \$17,411,534. Since 1926, \$270,923,221 was paid to private carriers of domestic air mail and \$122,402,162 to carriers of foreign air mail, he said, adding that thus far mail has meant an expenditure of \$410,736,917.

"In the last fiscal year more than a billion and a half pieces of air mail were carried, from which the revenue was an estimated 103 million dollars."

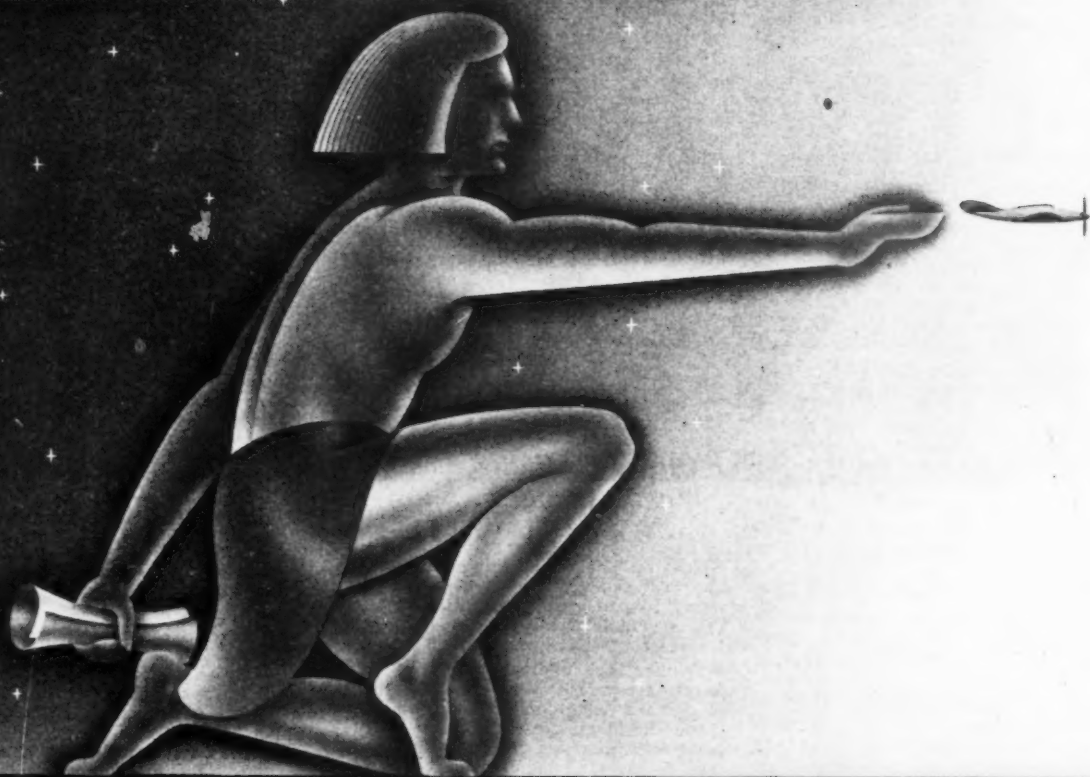
The present monthly volume of air mail being dispatched to planes, Walker said, is upward of 4,500 tons at a little more than 300 points—for a current increase of approximately 30% over the same month a year ago.

With only half the number of planes formerly available, the airlines have carried a volume of air mail which was swollen by 150% during the war period, he said. "High utilization developed by the air carriers has almost doubled the daily mileage per plane and a greater number of schedules are being operated on trunk lines than ever before."

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You're looking at the largest fighter plane ever built. It packs not just a pilot but *three* fighting specialists.

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United Flies Busy Supply Line Across Pacific

Equivalent of 854 U. S. to Australia Round Trips Made

By PEGGY GUETTER

FOR THE FIRST TIME, on the eve of United Air Lines' second anniversary in flying the Pacific for the Air Transport Command, the full story can be told of this airline's biggest wartime assignment as a flying partner in the military's master plan for an aerial supply line in the war against the Japs.

Officially the first scheduled flight took off from Hamilton Field Sept. 23, 1942, bound for Australia via key island stepping stones. Behind this take-off were manifold preparations. There was a giant job of training for both veteran and new personnel; the establishment of a huge overhaul and maintenance base at Mills Field; the development of an engineering department to tackle the specific problems of overseas operations.

Since its inception, the trans-Pacific operation has grown from conditions akin to barnstorming to a routine service. Two daily schedules depart from Hamilton Field; more than 60 round trips are now completed monthly, approximating 5,400 hours of flying, and on Aug. 5, 1944, a daily shuttle service was started between Hamilton Field and Honolulu. Nine million plane miles were flown by mid-summer of this year. The company has flown over Pacific waters the equivalent of 854 round trips from San Francisco to Australia.

Sixty Flight Crews

A fleet of Douglas C-54s are in service with approximately 60 flight crews, consisting of captain, first officer, flight engineer, radio engineer, navigator, and U. S. Army flight clerk. The ultimate operation calls for 75 crews to fly three daily schedules.

In the beginning, there were 25 crews, captained by United's seasoned pilots from every leg of the airline's domestic route. The captains already had an average of 15,000 flying hours per man; some were in the 18,000 to 20,000 bracket. Four planes, among the first C-87s to come from Consolidated Vultee's assembly line, was the equipment nucleus.

Until June, 1943, the operation was entirely C-87. Then, with the arrival of the first C-54, the equipment the next year included both cargo types. By July of this year the fleet became 100 per cent C-54.

Schedules at first were irregular, flown at the discretion of the captain. The crew kept flying until exhausted, then caught sleep in tents or in their plane at an island way-point. A kit of spare parts went along with each plane. Many miracles of mechanical improvisation was and is being performed by the flight engineer.

Round trips for plane and crew took 16 to 18 days. Later the ATC planned for lay-over crews at Canton, Nandi, Honolulu and Brisbane to permit continuous movement of planes and opportunity for tired crews to rest without delaying scheduled flight. Now a plane

completes the round trip in five days and the original crews returns in 12.

However, the Pacific Wing of the Air Transport Command, which in January of 1942 started operating as a ferrying group with two officers and a brief case, was rushing forward in its Herculean task of delivering fighting planes to the war zone and at the same time establishing a Pacific airway along a chain of island airports. For the most part, these ports had the first spade turned just before Pearl Harbor.

Just as the ATC was to deliver 1,000 planes and more than a half million pounds of war goods in that first struggling year, United and Consairway, the

initial contract carrier over the Pacific, were within the year using excellent facilities established by the Command.

Gone were the barnstorming qualities of inadequate weather forecasting, radio communications, passenger stations, servicing facilities and questionable food as well as fuel supply.

United marshalled its program under the direction of Seely V. Hall, regional vice president, who has been at the helm since training of personnel and planning for operational facilities began during the summer of 1942 in San Francisco.

From the airline's personnel came volunteer bids to join the new operation. Pilots, co-pilots, mechanics and station managers arrived from every section of the country. The mechanics were trained as flight engineers. Many of the navigators and radio operators needed to fill the demand came from outside the company. All were processed at San Francisco under a training program directed by Howard Kaster, navigation; John Wright, flight engineering; Captain George Douglas, crew training, and Virgil Skinner, radio operation.

Jack O'Brien, now on leave of absence to conduct experimental test flying for a war plant, captained the first qualifying and first scheduled flight. Familiarization trips were flown with Consairway, which made its initial flight April 23.

The Pacific pilots, whose backlog of airline flying is in big figures, have now piled up tidy numbers for overseas. By this summer 15 captains had spent more than 1,500 hours over the Pacific, and by now, many of their number have passed 2,000.

In this group are: Harry Huking, who started flying the mail in 1920 and is second in company seniority to Captain



Hall



Varied Loads— Whether it means hauling engines to far-flung points in the Pacific or returning wounded from Saipan, United Air Lines is carrying out a wartime assignment as flying partner in the military's master plan for an aerial supply line in the war against the Japs.



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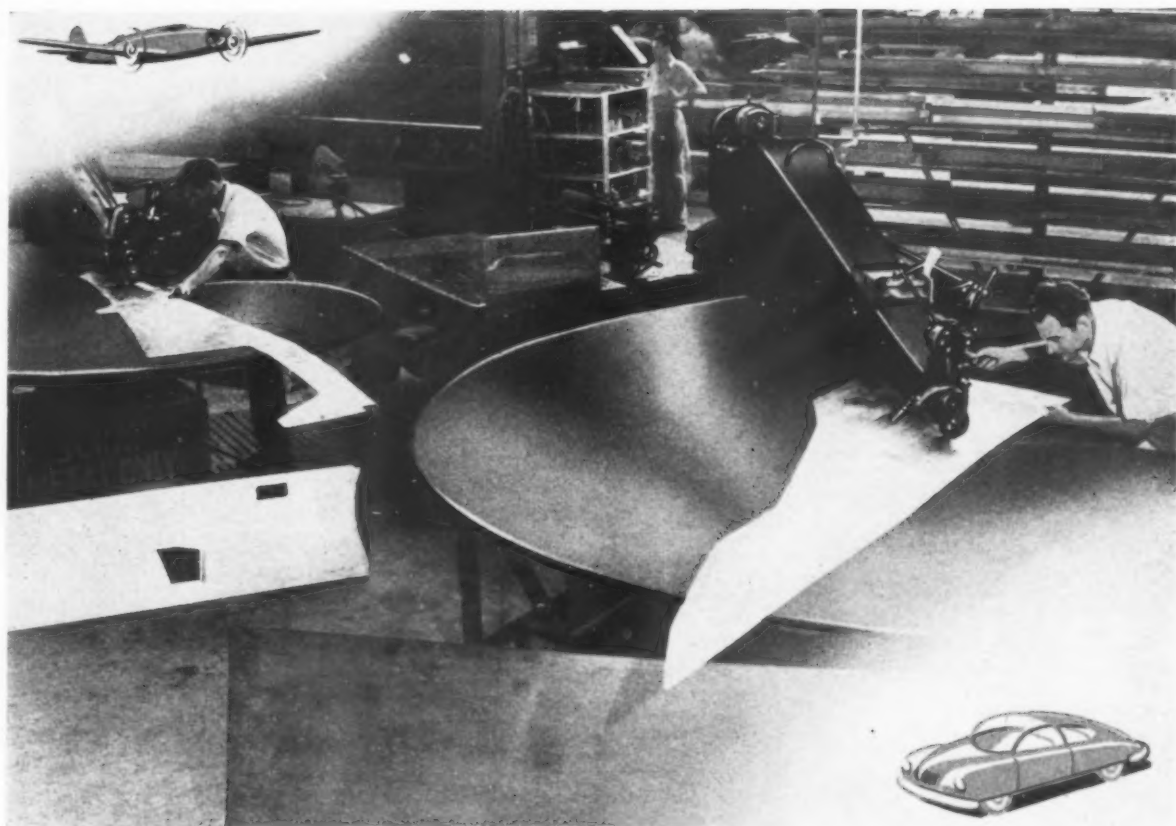


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"Ham" Lee; R. L. "Rube" Wagner; Virgil Vaughan; L. H. Smith; J. R. Smith; L. W. Sharman; John Roberts; S. J. Nelson; Clarence Hudson; E. B. Gray; E. J. Eshleman; Lee Duncan; R. E. Coulter; Ralph Johnson; W. "Doc" Eefsen.

Many of these hours were piled up in special A. T. C. missions, for missions to perform rush military tasks are so frequent that they might almost be termed "scheduled."

Mission Round-the-World

One mission turned into a round-the-world flight.

Capt. W. E. "Dusty" Rhoades, now a lieutenant colonel in the Air Forces flying General Douglas MacArthur to the war zones at the general's request, was pilot for "Philbert No. 2," a C-54 which left San Francisco for Washington under special sealed orders. With him were First Officer W. H. Gehlaar, Navigator R. E. Walker, Flight Engineers H. A. Strzelecki and R. A. Carroll, Radio Engineer Raymond Wolff and Flight Purser R. A. Schmidt.

Picking up important military leaders at Washington bound for the Cairo conference, they were to fly 31,380 miles in 150 flying hours, make 20 landings in almost as many countries before returning to San Francisco again via India and the South Pacific.

Enough gasoline to fill three and a half tank cars, 35,502 gallons, was used in the flight. Reaction to the Douglas transport's fuel capacity is noted in the flight engineer's report on refueling in India at a Royal Air Force base.



Wagner

"We filled up on fuel. 'Wow!' the R. A. F. gas truck ran dry four times, and the English 'aircraftmen' have never seen such a 'Bloody' airplane that took so 'bloody' much 'petrol'."

Another mission flown by Captain "Rube" Wagner in the South Pacific war zones was casually noted: "Total elapsed time 53 days; total flying, 200 hours; total statute miles, 34,097; average speed, 170 miles per hour.

"Beyond this point we were required to take 10 grains of quinine per day and add three drops of iodine solution to each canteen of water."

During the battle for Guadalcanal, Capt. Leo Allen performed a mission lasting 34 days and 174 flying hours while on another routine take-off from Hamilton Field, Earl Bach and crew went on strategic duty which was completed 37 days and 191 flying hours later.

O'Brien again made the first crossing in a C-54. With Benny Howard, famed Douglas test pilot and now assistant to Donald Douglas, as first officer and observer, the Skymaster rushed badly needed bomber stabilizers to Lt. General George C. Kenny. The flight was made with only two stops between Hamilton Field and Australia. Elapsed time, 39 hours; flying time, 35 hours, and the same crew all the way.

The crews are kept in physical trim for their scheduled work and their special

Towels and Bedsheet Used to Patch Planes

Flight engineers for United Air Lines operations in the Pacific for the Air Transport Command have rolled up a record of ingenious repairs in the field.

Cannibalizing of damaged pursuits and bombers at the war fronts have kept many transports flying. A tire and tube from a pursuit plane's main gear was used for the nose wheel on a C-54. At another time, a C-87 flew on to a repair base, powered by the engine of a bomber.

And when a tropical storm sent a tree into a transport's rudder, damaging the fabric, a bedsheet was used for patching. There was no available airplane fabric at the island, but "sheets to the wind," the transport flew on to the next repair base. Dish towels at one time made excellent patching when torn de-icer boots presented a way-point headache.

On another occasion the belly of a transport was damaged by hooking a metal runway mat. The flight engineer furnished "new skin" from the tin of a five gallon gasoline can.

missions which take them into the tropical wilderness by United's medical department. Everyone is given a complete medical examination on departure and upon return. In two years, there has been a perfect record in the war against tropical diseases.

Episode of Teamwork

Maintaining and supplying the planes is another teamwork episode of coordination between the maintenance, the engineering department and the ATC which supplies more than 96% of all materials and equipment necessary to the operations.

Today United has a base at San Fran-

cisco Municipal Airport (Mills Field), capable of handling 20 planes in tooling and hangar facilities. It carries the Air Forces designation of a fourth echelon repair base. To United personnel, it's known as a "miniature Cheyenne," although there's nothing miniature about the base which is three-quarters the size of the company's main overhaul depot for domestic service.

The only operator to handle all Army equipment, United's shops include: engine (the first base to overhaul Pratt and Whitney R2000 engines of the C-54s with the next nearest point for such overhaul, even now being the Army base at Fairfield, Ohio), propeller; accessories; instrument; radio-electric, and plane overhaul facilities.



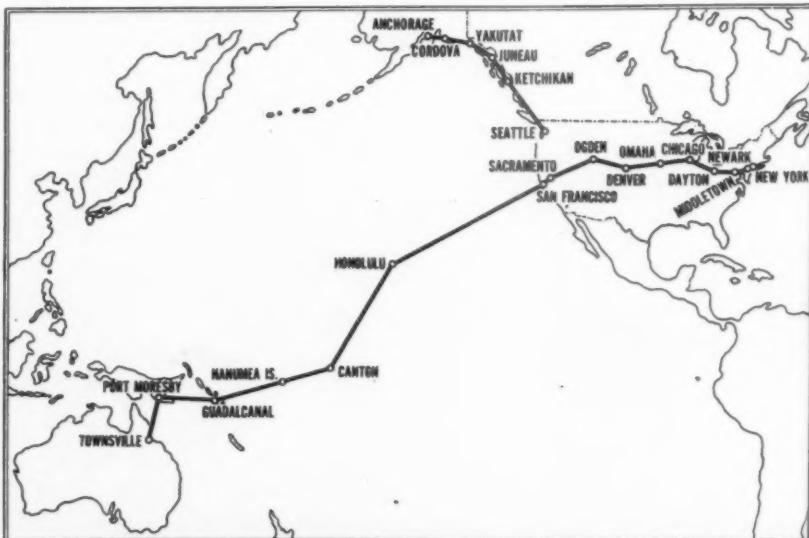
Salisbury

H. F. Salisbury went from Cheyenne to direct the maintenance set-up at San Francisco, and John L. Wright in Honolulu supervises mechanical operations in the field.

Combining overhaul and operations maintenance at San Francisco, No. 2 checks are performed in Townsville, Australia, while at Honolulu facilities are available for the same work. Each intermediate point between these two major field bases carries out a No. 1 check. The No. 3 check takes place at San Francisco after each round trip. These trips take between 80 to 90 hours. Engine change and plane overhauls on C-87s were scheduled every 650 hours, while the same overhaul for a C-54 is now performed every 800 hours.

The monthly average for June shows planes flying 10 hours and 12 minutes per day. Ultimately, under the standardization of one plane type, the maintenance department has set a goal of 12 to 12 hours per day.

Talking with maintenance chief "Sol" Salisbury presents a perspective in



United ATC Pacific Routes Move North With Advancing U. S. Forces

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SOUTHERN skies are seldom silent. Growing swarms of fighting aircraft roar into the sky from giant factories, newly-erected in the power-rich South. Busy trainers carry future aces high into sun-warmed skies where they swoop and circle endlessly. Undreamed-of power fills southern skies.

But southern air power was not born with World War II. For Delta Air Lines gave the South time-saving air transportation as early as 1929. And Delta service has been made swifter and more luxurious each year. Though continuing to provide essential

air travel, Delta's wartime expansion has naturally been devoted to the needs of the armed forces.

When Southern-trained men and southern-built planes have helped restore Peace, Delta's plans to give the South great commercial air power can be realized. For the South, with its vast resources, new factories and abundant skilled manpower, will be called upon to contribute much to U. S. postwar prosperity. And the South will be the natural gateway through which the great, expanding volume of Latin-American travel and commerce will flow.

THE AIRLINE OF THE SOUTH... SERVING A LAND OF POWER AND PROMISE





Comparing Notes— Taking a look at the record of United's Pacific operations are, left to right, Virgil Skinner, chief radio operator; Henry A. Strzelecki, chief flight engineer; and Myron V. Cochran, chief navigator.

founding a major depot overnight. "We had only an embryo base. United had moved its domestic operations from Oakland to Mills Field in Feb., 1942. The new building was just completed. For the Pacific operations, we grew from a nucleus of 45 people to more than 600, and we'll top 700 in handling the full complement of C-54s.

"Ten men went to Honolulu at the start. Every station on the line was represented among the flight engineers and on the floor of the shop here. From this conglomerate group, with individual methods in operating ideas, techniques and procedures, was welded a unit. This whole represented the best points in any compromise. Line men learned the meaning of repair base inspection, and repair base personnel, inclined to lean heavily on the engineering department and regulations, discovered the give-and-take of line work."

Spare Parts Kept Flowing

In addition to tackling the problem of maintaining dual equipment for more than a year, Salisbury and his men with the Army's help saw to it that spare parts for the C-54, a new plane for such operations, were kept flowing into the field. Five hundred pounds of parts went out with the first C-54. The C-87 had not presented such a problem as 90 per cent of the parts were common to the B-24 which was in quantity production when the cargo version began flying.

Ma'or Samuel Meyers, commanding officer of the Mills Field Station for ATC's Pacific Wing, is the man who has kept supplies, including the vital spares, flowing to United. He was the lone Army representative when the project got underway.

To obtain the needed equipment for the first flight, he took a "Mainliner" from San Francisco to the Sacramento Air Depot to get the bare necessities—flying clothes, navigation instruments and spare parts for the first plane.

From a 20 x 20 ft. warehouse, his supplies now cover three floors in the base hangar, an area of 15,000 square feet. Eighteen thousand items were on the active stock record during the year when dual equipment was flying.

A plane seldom has been grounded for spare parts, and in the case of C-54s, it meant shipping parts each day to the

Reconstruction Finance Corp. Holds \$145,086,359 in Surplus Aircraft

The Reconstruction Finance Corp. was holding, as of Aug. 15, \$145,086,359 in surplus planes and equipment, Jesse H. Jones, Secretary of Commerce, reports.

On July 15, RFC held \$66,007,247 in aircraft equipment.

The aviation surpluses are listed in the later report as follows:

	ACQUISITIONS		SALES		ON HAND
	Cost		Cost	Sales Price	Cost
Aircraft*	\$ 7,574				\$ 7,574
Airplanest	137,031,941		\$130,500	\$25,000	136,901,441
Gliders†	2,120,063				2,120,063
Aircraft Engines	7,292				7,292
Link Trainers	3,696				3,696
Aircraft Equipment	5,915,793				5,915,793
Not Elsewhere Classified					
Shoring Assemblies					

*Reported by loan agencies.

†7,450 planes acquired, 7,449 on hand.

‡784 gliders acquired and on hand.

South Pacific as a follow-up to the first 500 pound load.

Modification work and special installations are performed in addition to the regular functions for the Pacific operations.

The C-54, which carried dignitaries to the Cairo conference, was modified between trips from a cargo plane to a luxury liner, complete with 28 seats, extra lavatory, galley, sound proofing and carpeting. Litter installations were made

in several planes, and United is regularly carrying the wounded on a number of its scheduled flights.

Behind these special duties lies the efforts of the engineering department. Joseph S. Martin took on the Pacific assignment and has been on the spot since the first

C-87 rolled into the base as a new model, rushed out by war-time necessity and virtually without operating data.

Flight tests were conducted for several weeks and United worked out its own fuel consumption, power settings, cruise control and weight and balance data. This information was passed along to other contract operators and to the busy Convair factory which was producing the needed cargo version as well as the B-24 Liberator.

United developed light weight rubber fuel cells to replace the bulletproof cells of the C-87. This is now required by the AAF as standard for all 87s. It represents a savings of 700 pounds in weight per plane and an increased fuel capacity of 100 gallons.

Many Improvements Made

The engineers contributed other developments to the plane:

1. A rudder type anti-static wire is now installed on all planes built at Convair's Fort Worth plant.

2. A cowl flap modification was suggested by Mechanic Lindus Burd to overcome the problem of a jack which lasted only 100 hours, thus aggravating a critical

situation due to parts procurement. Burd's suggestion utilized discarded parts, no longer serviceable. The improved jacks stood up under several thousand hours of use.

3. A dehydrator for the electric prop governors was perfected to eliminate moisture and rusting of interior parts.

Among the special assignments for other branches of the Air Forces was the first installation of carburetor air filters on service planes. This was done for the Materiel Command.

Many of the persons who have played an important part in "Pacific Ops" have been mentioned during the recounting of events. However, the names of other key personnel will have a familiar sound to the airline industry . . . they're well-known veterans.

Hall's personal staff consists of four

executive assistants, James S. Hibbert, O. E. Wilkinson, E. C. "Doc" Thomas, and R. D. Nielson. Paul E. Reeder is superintendent of flight operations and with him as assistants are R. J. Johnson, F. A. Clark, J. R. MacDonald and F. M. Thompson. Virgil Skinner,



Reeder

who directed training in radio, is now chief flight radio operator; M. V. Cochran is chief navigator and Henry "Hank" Strzelecki is chief flight engineer.

C. T. "Charlie" Wrightson is division superintendent in Hawaii and O. L. Ford is division superintendent in Australia, recently having relieved Claude M. Wall because of the latter's illness. (Wrightson will shortly return to his old post as Burbank station manager while W. A. "Bill" Thompson leaves Burbank to relieve Wrightson who entered the Pacific division at its formation.)

Station managers are: G. W. McDaniel, Hamilton Field; Wayne E. May, Hawaii; J. W. Pattee, one of the island stops; H. P. Hyde, New Guinea; K. C. School, Guadalcanal and K. L. Wickwire, Australia.

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Micarta antenna masts to "HIT THE BREEZE" / at 600 mph!



That thin, long mast rides outside in the fury of a 600 mph gale. It is made of Micarta—the light, tough aviation plastic.

Requirements for antenna mast performance are exacting. The mast must withstand extremes of air pressure and temperature. It must be rigid, hold the antenna taut without yield or wobbling. Because Micarta combines maximum strength with light weight, it is now used in the antenna masts of Navy Grumman planes.

MICARTA has high dielectric strength . . . ideal for this type of nonconducting application.

MICARTA weighs approximately one-half as much as aluminum of equal strength, helps eliminate superfluous weight in the plane.

MICARTA'S tensile strength *increases* as temperatures decrease—an important factor in high-altitude flying.

MICARTA can be molded to best airflo design . . . one-piece construction.

Micarta's unusual combination of characteristics has been the basis for the redesign of many aircraft parts. If you are looking for lighter weight, high strength and resistance to wear and corrosion, write for your copy of the new Micarta Data Book B-3184-A. Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., Dept. 7-N.

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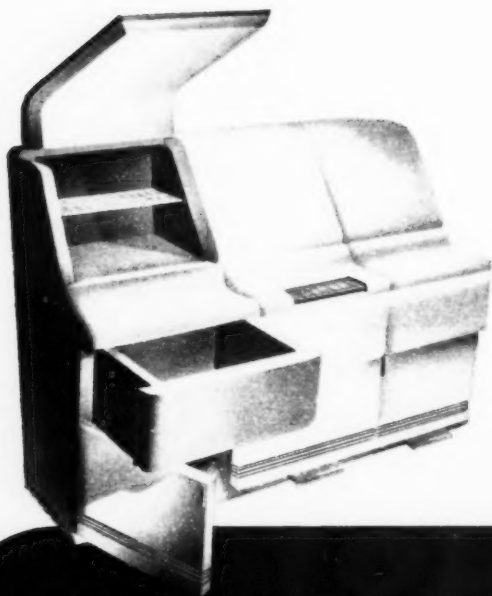
PULLEYS of Micarta extend life of both pulley and cable. Millions are now in use in Allied Aircraft.



AMMUNITION FEED CHUTES made of the new Micarta "444" guide bullets accurately into firing position. It is thin, light, strong, easily formed with inexpensive dies.



BOMB RACKS have been successfully molded with Micarta . . . furnish an excellent example of Micarta's strength and the skill of Westinghouse engineers in intricate molding assignments.



I PREDICT...

by Morris Sanders

Industrial Designer of New York

The kitchen of tomorrow will have no taint of the drudgery that characterized it in the past. A symbol of its efficiency will be the new refrigerators you will buy with your War Bonds. I have designs in my files for a horizontal, counter-height refrigerator that enables the housewife to see its entire contents without wearisome stooping. It has multiple compartments with varying degrees of temperature from "deep freeze" to "cool", and a special "private" compartment for ice cubes. There will be no wholesale release of cold air every time the refrigerator door opens, consequently it will be more economical. Furthermore, its cubic area will allow for more actual storage space than in the past.

* * *

NOTE: The Weatherhead Company, one of the oldest and most important manufacturers of parts for the refrigeration industry, is prepared for the day when its four plants will be contributing as actively in peace as it has in war to the country's refrigeration needs.

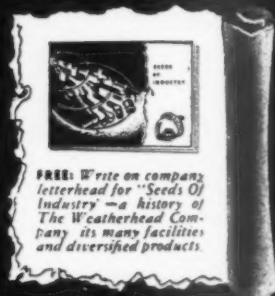
Look Ahead with



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THE WEATHERHEAD COMPANY, CLEVELAND, OHIO
Manufacturers of vital parts for the automotive, aviation,
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Find Use for Surplus War Property; Don't Destroy It

THE Post-War Economic Policy and Planning Committee of Congress, headed by Rep. William M. Colmer (D., Miss.), laid down broad policies and recommendations for the disposal of \$3.-110,000,000 worth of government-built aircraft plants in a report to Congress, released Sept. 11.

The committee recommends that the Surplus War Property Administrator shall dispose of surplus property on the basis of obtaining the highest possible return for the government.

"No property for which use can be found should be destroyed," the recommendation stated.

The committee stated that transfer of property from one Government agency to another should be facilitated so that each agency would have the fullest practicable use of the property to avoid unnecessary commercial purchases. The transfers should be made at fair value, the report stated.

Full opportunity should be given to other public agencies, educational and charitable organizations, to acquire surplus property. The committee does not feel the property should be donated unless it is of negligible value.

Former owners of surplus real property should be given an opportunity to reacquire the property at a fair value, the committee stated.

With reference to the government's investment in aircraft industries, the report stated:

"These are highly modern plants, the finest of their kind. Their postwar use for aircraft must necessarily be limited to only a fraction of the present output, since they represent a 4,000% expansion in aircraft capacity in three years. Equipment in these plants, however, could be used for many purposes. In order to utilize the facilities to the fullest practicable extent, a large percentage of the equipment may have to be dismantled for redistribution in smaller units, and the structures converted for other industrial uses.

"In the disposition of the war plants, the requirements of the armed forces for postwar security will have to receive

prudent and realistic consideration. The nation must not be left unprepared for future emergencies and at the same time should not be saddled with obsolete facilities, but must keep its means of preparedness up to the highest level of efficiency.

"The problem is to find ways of breaking down the huge plants into operable units. This may involve the grouping of a number of related establishments under a single plant lay-out—the department store principle applied to manufactures—or it may require the sale of machinery, tools, and equipment, with the scrapping and salvage of what is left."

A breakdown of the government's investment in aircraft factories based on the type of product produced follows: Frames, \$660,000,000; Engines, \$1,300,000,000; Engine parts, \$350,000,000 and aircraft parts, \$800,000,000, making a total of \$3.-111,000,000.

Chinese Cite ATC Division

The Indo-China Division of the Air Transport Command has been cited by the Chinese Government for keeping open China's lifeline with the outside world.

Aviation Included Among Studies Under GI Readjustment Act

Aviation is included in the list of subjects in which GI's may receive technical training under provisions of the Servicemen's Readjustment Act (G.I. Bill of Rights), according to an OWI report.

Basis for educational benefits under the G.I. Bill is interruption of a veteran's education and his length of service. Provision for vocational rehabilitation for a veteran who has disability that constitutes a handicap in getting or holding a job, was made in previous legislation.

Under the educational plan, which is handled through the Veterans Administration, tuition and incidental fees will be paid to the college or school, subsistence to the veteran. Many of the veterans will be interested in obtaining the type of technical education that can be completed in six months to two years of study, OWI said.

In response to this trend, states may provide new types of schools, such as technical institutes, or may introduce new courses in existing schools, the Office of Education reports.

New York State, for example, has appropriated approximately \$65,000,000 for technical education in 11 technical institutions in upstate areas and 11 in metropolitan New York City, to provide education in such subjects as aviation, automotive sciences, aeronautics, machines and metal trades.

Alfred Marchev Heads East Coast Council; Succeeds Victor Emanuel

Retiring President Cites Big Expansion Of 8 Eastern Firms

COMPLETING his term as president of the Aircraft War Production Council, East Coast, last fortnight, Victor Emanuel, president of Aviation Corp., reported to the board of directors that the eight member companies of the East Coast Council had expanded to a size in excess of the entire prewar aviation industry.

Emanuel was succeeded as East Coast Council president by Alfred Marchev, president of Republic Aircraft Corp.

In his report, Emanuel said such accomplishments as labor utilization surveys, interchanges of engineering and production information had contributed their share of war planes to the more than 55,000 aircraft built by the East Coast Council members since Pearl Harbor.



Marchev

The report said that in Sept. 1941, the eight member companies turned out 2.-563,000 pounds of airframe, and that this monthly rate had been increased more than 500% in less than three years.

Dollar volume of the entire industry in the first six months of 1941 totaled \$617,000,000. The first six months for the eight East Coast Council members resulted in \$1,500,000,000 worth of airplanes, engines, propellers and equipment being delivered to the air forces, with per pound cost of this production to the government being reduced.

Member company employe totals have risen from 61,000 in Nov. 1941, to approximately 200,000 in Aug. 1944, the report states. Per employe output in terms of pounds of airframe per month has been increased approximately 166% in a little more than 2½ years.

East Coast Council companies have cooperated with the AAF Materiel Command in such outstanding developments as power gun turrets, self-sealing gas tanks, improved engines and propellers, helicopters and America's first jet-propelled planes. In addition to Aviation Corp., and Republic, the member companies are Bell Aircraft Corp., Chance Vought Aircraft, Curtiss-Wright Corp., Eastern Aircraft Div. of General Motors, Fairchild Engine and Airplane Corp., and Glenn L. Martin Co.

WTS Has Sold 4,165 Planes; Average Price 65% of Ceiling

The War Training Service, of the Civil Aeronautics Administration, has sold and delivered 4,165 of the 5,433 surplus airplanes which were turned over to CAA for disposal by the Defense Plant Corporation.

Bids have been accepted on a total of 4,645 planes and bids are still to be received on the balance of 788. A total of 5,153 planes have been posted for sale.

It has been learned that the sale price has averaged 65% of the ceiling price. The ceiling price was determined by using the manufacturer's list price less eight per cent per year.

Air Secretary Lovett Urges 'Unemotional' Disposal of Aircraft

Surplus aircraft in America must be "purposefully and unemotionally" scrapped after the present war to insure aviation's progress, Robert A. Lovett, assistant secretary of war for air, told the National Association of Broadcasters at its recent Executives War Conference in Chicago.

He said a good start has been made on meeting war readjustment problems in the Contract Settlement of 1944 and in the establishment of the Surplus War Property Administration, and asserted:

"If we are to develop the right kind of civil and military aircraft, if the aircraft industry—management and labor—is to be preserved in a condition adequate for our protection, there is going to have to be large-scale scrapping of surplus aircraft."

Cites World War I Aftermath

"Our safety lies in progress," Lovett said. "Surplus Liberty engines choked off our aircraft industries after the last war. This surplus continued through 1932—14 years after the war—and choked off development of our air power because we still had 3,000 Liberty engines on hand."

He said the future of this country's air force "is bound inseparably to, airframe and aircraft engine industries and they, in turn, are equally dependent on the military services . . . the Materiel Command is now planning a comprehensive postwar experimental program . . . drawn up to insure continued superiority in design and production of aircraft both military and civil."

Lovett said the U. S. is in the primary stage of aircraft development—what has been done so far is only a prelude to the future. He spoke of wholly new and revolutionary propulsion equipment now operating and said that jet propulsion in aircraft is in its infancy.

He said the U. S. must maintain its leadership in airpower "with full public support, of a strong permanent airforce with skilled personnel and up-to-date equipment. A second-rate airforce is worse than useless. It is a positive danger in that it may create a false sense of security."

Maritime Provinces Conference

An air conference is being planned in connection with the October 3rd meeting of the Maritime Board of Trade of Prince Edward Island, New Brunswick, and Nova Scotia. The conference, to be held at the Cornwallis Inn at Kentville, N. S., is for the purpose of affording boards of trade and communities in the Maritime Provinces the opportunity to obtain "authoritative information on what confronts them in commercial aviation, and what they should do in planning for commercial air services in their particular locality," according to R. H. Matheson, transportation manager of the Transportation Commission, Maritime Board of Trade, sponsor of the conference.

CAA to Create Ninth Region With Honolulu Headquarters

The Civil Aeronautics Administration, to meet the needs of increased air traffic in the Pacific area, will create a Ninth Region, with headquarters at Honolulu. The Territory of the Hawaiian Islands, and the Pacific Ocean not now under the jurisdiction of the Eighth (Alaska) region will comprise the new region.

Establishment of a new oceanic region follows nearly a year of partly secret service of a CAA Traffic Control center at Honolulu. This center, manned late in 1943, has been handling traffic control for all aircraft westbound from California. Radio ranges keep the pilot in constant radio communication with ground sources of aid.

"This overseas Airway Traffic Control Center, located at Honolulu, has meant the difference between life and death to many military pilots who have gotten into difficulty on the long, all-water flight from the mainland to Hawaii, or from some departure point in the south Pacific to Hawaii on the return flight," CAA officials explained.

In connection with this operation, CAA has set up an air rescue service which assists searching craft in locating a plane forced down at sea. This service goes into effect as soon as the emergency is recognized or when a flight is overdue.

New Aero Chamber Groups

Aircraft and aircraft engine manufacturers have announced establishment of the Airplane and Engine Technical Committees of the Aeronautical Chamber of Commerce as their official spokesmen to the government on aeronautical technical requirements. The committees will assist in correlating industry technical activities with those of the Army, Navy, CAA and other governmental agencies.

Shipping Companies Get Another Chance To Argue Air Rights

Shipping interests are being given another opportunity to express their views on their right to enter the international aviation field at hearings being conducted by a newly appointed Aviation sub-committee of the Merchant Marine and Fisheries committee of the House.

The newly appointed sub-committee, headed by Rep. Schuyler O. Bland, (D. Va.) who is chairman of the full committee, started open hearings Sept. 11. While the broad question of aviation was to be considered, specific attention was to be given to the chosen instrument theory of international air transportation and the rights and needs of the merchant marine with reference to obtaining international air transport certificates. Emphasis was to be placed on what will happen to the U. S. Merchant Marine if steamship companies are not permitted to enter the aviation field and correlate shipping and air operations.

Hearings on this same general subject were held by the full committee many months ago but to date no report has been issued. It was understood that new information is desired before a report will be submitted.

Names of other members of the Aviation sub-committee are as follows:

Joseph J. Mansfield (D., Tex.), J. Hardin Peterson (D., Fla.), Herbert C. Bonner (D., N.C.), Louis J. Capossoli (D., N.Y.), Eugene J. Keogh (D., N.Y.), Richard J. Welch (R., Calif.), Joseph J. O'Brien (R., N.Y.), Gordon Canfield (R., N.J.), Christian A. Herter (R., Mass.) and Ellsworth B. Buck (R., N.Y.). Irving C. McCann has been hired as special counsel to the committee to assist with the hearing.



Speakers at Auburn— Among the speakers at the Southeastern Airport Conference were, left to right: Ed Nilson, Beech Aircraft; W. T. Piper, Piper Aircraft; J. Kirk Baldwin, chief of CAA's airport management section; and Thomas D. Eve, Southern Airways.

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...THE FUTURE IS OFTEN AS CLEAR AS A SUMMER NIGHT

The Lockheed Constellation



Facts show the Constellation to be a superior airplane. Its importance, however, derives not from at-the-moment achievement or triumph, but rather from its significant place in the history of flight, in the long history of human relations. Scientific development moves slowly. Yet there are rare moments when the ingenuity of the drafting boards and the skills of the benches combine perfectly, swiftly accelerating the steady pace of progress. And at these moments, the future becomes as clear and star-filled as a summer night; a future that in this instance pledges ever greater planes to come, ever wider horizons, and a true bond of understanding among the peoples of the earth.

The Lockheed Constellation

Highest speed of any transport

Longest range of any transport

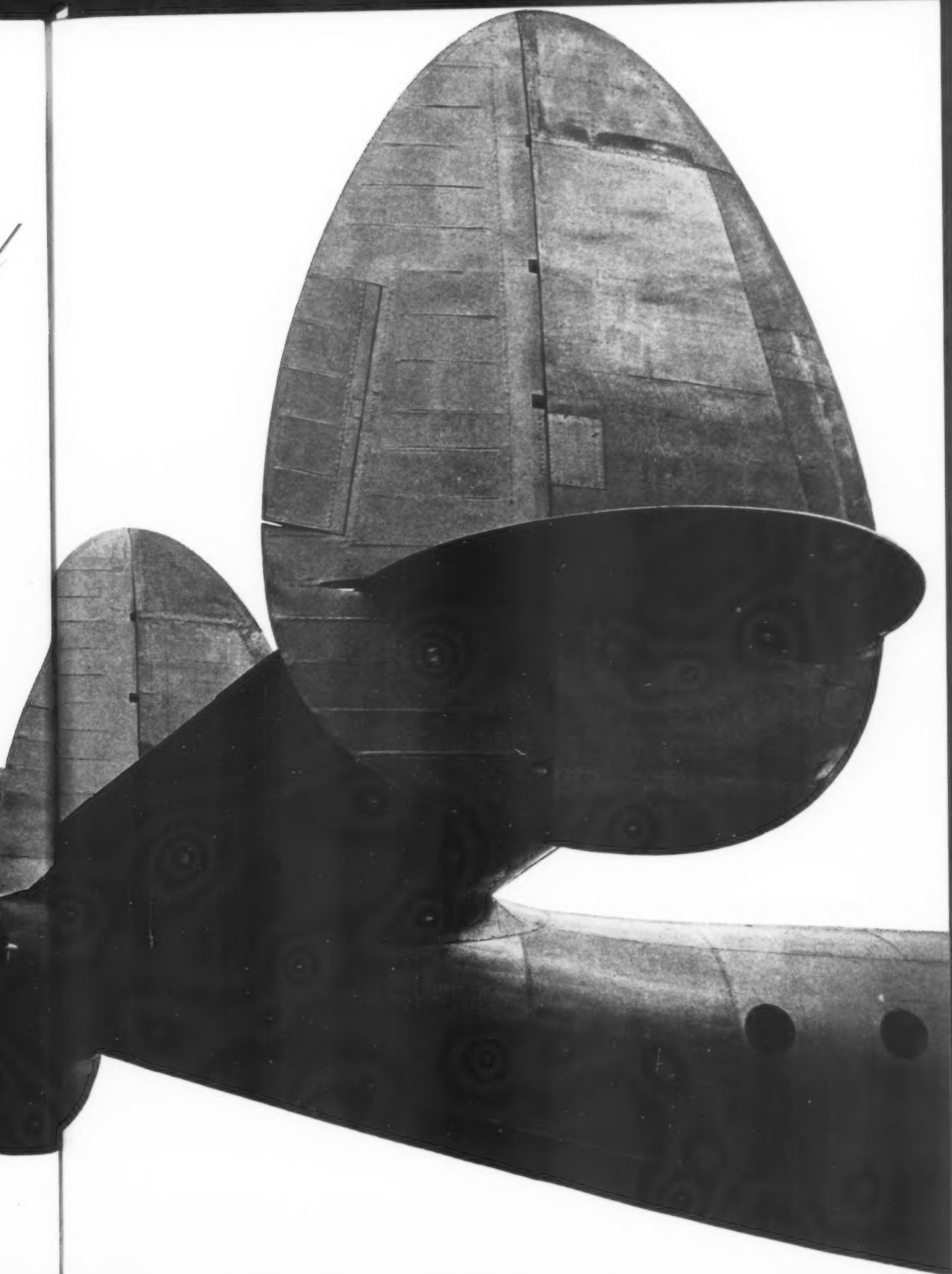
Largest load-carrying capacity of any transport

Greatest rate of climb of any transport

And these performance factors make the Constellation the SAFEST of any transport.

ANOTHER EXAMPLE OF
LOCKHEED LEADERSHIP







Q U E S T I O N S

Q. I understand that the Constellation can fly on any two of its four engines. Is this true? —E. E. M., St. Louis

A. *True. It is unique in that it can CLIMB on two engines.*

Q. Does it fly too high for comfort? —F. S., Pasadena

A. *Actually it flies high FOR comfort. The Constellation operates over weather, yet cabin pressures are kept at levels no higher than many mountain resorts.*

Q. A friend of mine insists that the Constellation needs two airports to land it. What about it? —H. J. K., New York

A. *Landing speed is less than 80 m.p.h. About ½ airport.*

Q. How many people will the plane carry? —W. H. McM., Boise

A. *As a sky-liner—64 passengers; sky-sleeper—34 passengers at night, 48 in daytime. Crew of 6.*

Q. I'd like to ride in a Constellation. —Joan H., Brooklyn

A. *The Army Air Forces are taking all we make. After the war, you'll get your wish.*

Send in your questions. Address: Lockheed Aircraft Corporation, Department 69-55, Burbank, California



FOR DEPENDABILITY IN FLIGHT

LOOK TO *Lockheed* FOR LEADERSHIP

Poll on What Air Travelers Want Gives Many Surprises

Postwar Patrons Will Leave Size of Planes to Experts

SEVERAL SURPRISES as to what the postwar air traveler wants in planes and air service were contained in the answers of 27,163 air travelers to an extensive questionnaire distributed 11 months ago by American Airlines Inc.

American received 1,378,434 question answers (replies from persons who were not air travelers were excluded), according to an announcement made by the company last week. A report of the survey was made to the Civil Aeronautics Board.

Contrary to general belief, the postwar air traveler will not go all-out for mammoth planes, the answers show. Eighty-four per cent of the answers state that planes' seating capacity will make no difference—air travelers "are perfectly willing to leave size up to the judgment of the experts," AA concluded.

Reservation System Favored

"Not satisfied with just one query, we asked those to whom it did make a difference, which size they'd prefer—21-passenger, 50-passenger, or 100-passenger. Here again comes a size surprise, for 58% of the small number to whom size makes a difference prefer 21-passenger planes, 30% go for 50-passenger and 12% for 100-passenger."

It also was discovered that 56% of the travelers do not care whether they fly over water in landplanes or flying boats. However, of the remaining 44%, 34% prefer flying boats, 10% landplanes.

Also contrary to many opinions expressed in the industry, it was discovered that travelers will want reservations on short "commuter" flights. "With frequent departures—every half hour or so—perhaps people might be willing to consider winged versions of day coaches?" AA asked. "That is, you'd go to the airport, buy a ticket and catch the first plane. 'Nothing doing,' said 71% of our travelers. Seventy-one per cent also said they'd be willing to pay extra for reserved seats on such commuter flights."

On international flying, travelers were asked whether they would patronize a foreign-operated airline or one flying the U. S. flag. "The answer was almost completely 100% red, white and blue."

74% Prefer Stewardesses

Other answers included:

1. "Extras" (conveniences that cannot be provided today)—travelers want, in order, (1) pressurized cabins, (2) individual radios, (3) illuminated trip progress panels. Others mentioned were ship-to-ground communication, library of current books, a ticker news service.

2. Space needed per passenger—70% say: "We'll take seats as they are now," rather than more room at higher fares. Thirty per cent prefer fewer seats. On berths vs. private compartments (which would cost more), 74% favored berths.

3. Stewardesses—74% prefer stewardesses only; 26% voted for stewards

and stewards, if more than one attendant is necessary.

4. Speed—67% would pay extra fare for extra speed; 33% would not.

5. Reserved space—67% prefer space as it is now (reserved, but no specific seat assignments); 33% prefer seat assignments.

6. Luggage—69% want to check all luggage except lightest pieces; 31% desire to take all luggage into the cabin with them.

7. Meals—four out of five like meals as they are now, with no extra charge but no menu to choose from. One out of five want a menu and an extra charge.

8. First-class mail—80% favor carriage of all first-class mail by air where it speeds delivery; 20% don't.

9. Night or day?—62% of pleasure travelers want to take even long trips by day, while 38% prefer night. Of the business travelers, 64% want night travel, even for short trips, while 36% prefer day.

10. Winter vacations—80% would like to "exchange winter for summer" and take a winter vacation in warm climate via Flagship. Areas favored were Arizona, Florida, Mexico and southern California.

11. 24-hour clock—69% are in favor of adopting 24-hour time on timetables.

12. What foreign lands would you visit, for business or pleasure?—The British Isles rank first, Continental Europe second, the other Americas third and Russia fourth, followed by Scandinavia, Asia Minor and Africa, Orient, Australia and Pacific Isles and the Balkans.

CAB Calendar

Sept. 15—Prehearing conference on North and Central Pacific applications. (Tentative hearing, Jan. 18).

Sept. 18—Hearing on applications involving new and amended routes in Latin American Caribbean area. (Docket 525 et al.).

Oct. 2—Hearing on Panagra's application to provide a local service between Chiclayo and Iquitos, Peru.

Oct. 2—Prehearing conference, international routes, Australia area. (Tentative hearing, Feb. 1).

Oct. 16—Hearing on North Atlantic route applications. (Docket 855 et al.).

Nov. 1—Hearing on West Coast applications, Oregon Airways, Inc. (Docket 250 et al.).

Nov. 1—Hearing on South Atlantic route applications. (Tentative).

Nov. 27—Hearing on Florida cases. (Docket 489, et al.).

Dec. 4—Hearing on the New England cases, Docket 399 et al. (Tentative).

13. Airports—four out of five favor strategically located airports, a system advocated by AA under which one airport would serve, for example, three communities located near each other. An airport equally distant from all three towns would provide each town with more service, AA points out.

Travelers were also asked to check a list of facilities at airports. The majority feel that facilities were satisfactory, with the exception of garaging and restaurants, which a slight majority thought needed improvements. Women voters want improvements in shops, rest rooms and waiting rooms.

Feeder Airlines Without Subsidies Discussed at Denver CAB Meeting

Theory Advanced That They Should Operate As Independent Units

THE CAB's consolidated Rocky Mountain hearing (Docket 152 et al.), held in Denver last fortnight, brought forth varied opinions on the operations of feeder lines, among them that they should be operated as units independent of trunk-line carriers and without subsidies.

S. N. Drum, president of Colorado Air Lines, Durango, Colo., said he was willing to attempt an operation between Denver and Phoenix, Ariz., without subsidy. Drum recently suspended operations on an intra-state operation between Denver and Durango because of lack of suitable equipment.

"While these other airlines spent thousands of dollars building nice exhibits for this hearing, we spent thousands of dollars actually proving our case," Drum testified. "I know the business exists in the San Juan basin (of Colorado) and we can operate profitably without a government subsidy if given the proper certificate."

Frontier Airways, one of the trade-area lines sponsored by Braniff Airways, met with opposition from all of the independ-

ent applicants in the hearing. Opposition to permitting existing certificated carriers to own substantial or controlling interests in feeder routes was first expressed by Ray Wilson, president of Ray Wilson, Inc., Denver.

Such ownership, Wilson said, was contrary to sound public policy, adding that feeders as independent units would be beneficial to trunk line routes. Other of his witnesses said they intended to develop and remain in the feeder business and that they were willing to accept certificates containing a separate route number for each route. They also were agreeable to a requirement that all flights land at all intermediate points.

In all, 10 applicants appeared in the hearing, held before Examiner William Madden. Public counsel was D. Franklin Kell. Applicants in addition to Colorado Air Lines, Frontier, and Wilson, were Intermountain Air Lines, Grand Junction; Mountain States Aviation, Denver; Pueblo Air Service, Pueblo, Summit Airways, Laramie, Wyo.; Thomas Air Service, Farmington, N. M.; Western and Inland Air Lines, Los Angeles.

Continental and United Air Lines and the anti-trust division of the U. S. Department of Justice appeared as interveners. Seven applicants whose applications were consolidated did not appear.

Wraps Taken Off Britain's York Transport

THE WRAPS were taken off a new British transport last fortnight which the magazine *The Aeroplane* describes as the answer to the needs of Great Britain's airlines "now or immediately after the war."

The new transport, called the York, is being produced by the Avro Co., manufacturers of the Lancaster bomber, which the passenger plane closely resembles. The wings and undercarriage of the Lancaster have been repeated in the York, but the tail has been redesigned with a third central fin as opposed to the twin fins of the Lancaster.

Apart from these features the York is an entirely new design, says *The Aeroplane*, and "it is erroneous to describe it as a converted bomber or a transport version of the Lancaster." In the York both the wings and tail have been moved from the mid-wing position in the Lancaster to high wing positions.

Following are some comparative dimensions of the York and Lancaster:

	LANCASTER.	YORK.
Maximum gross take-off weight	67,000 lb.	65,000 lb.
Empty weight	31,800 lb.	33,200 lb.
Span	102 ft.	102 ft.
Wing area	1,297 sq. ft.	1,205 sq. ft.
Length	69 ft. 4 ins.	78 ft.

Height	20 ft.	20 ft.
Maximum take-off wing loading	51.6 lb./sq. ft.	53.9 lb./sq. ft.
Maximum take-off power loading	13.29 lb./h.p.	12.89 lb./h.p.
Cubic capacity (inside formers)	1,500 c.f.	3,000 c.f.

Majority of the Yorks produced thus far are equipped with four Rolls-Royce XX Merlin engines of 1,260 hp each, but as in the case of the Lancaster, radial engines can be used. Three-blade de Havilland hydromatic propellers complete the power unit.

Undercarriage of the York is the same as that of the Lancaster, but the fuselage has been lowered in the transport to facilitate both cargo and passenger loading. The high wings provide the passengers with an unrestricted view.

From an operations standpoint, the York is said to have many advantages. The entrance door is in the center of the fuselage beneath the right wing and leads to the fore and aft cabins. Passenger cabins are arranged with 12 seats in rows, two individual seats on the starboard and one on the port side of the passageway for a total of 24.

Accommodations for a crew of four are provided in the cabin, where the captain

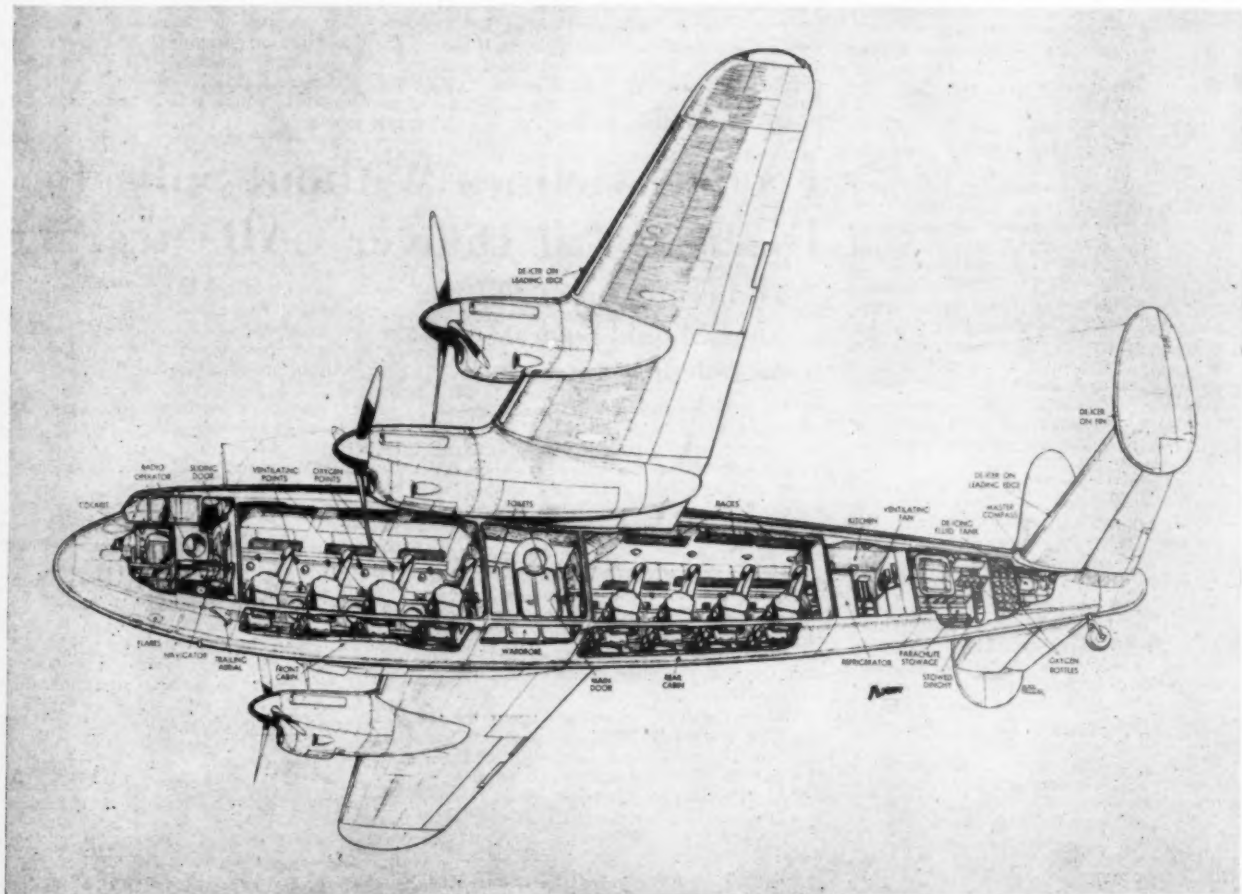
and first officer work from an upright instrument panel in front of them. The navigator sits directly behind the first officer, and the radio officer directly behind the captain. The ship's short nose is hinged, providing access to the instrument panel, and increasing horizontal vision.

The York is not equipped with a pressurized cabin, but oxygen facilities are provided for passengers by individual masks under each seat. Cooking facilities are not provided, but the galley contains cupboards, electrically heated boxes and a refrigerator to keep food ready for serving.

Normal fuel capacity of the plane is 2,480 gallons carried in seven tanks, three in each wing and one in the center section. The plane's only baggage compartment has a capacity of approximately 200 cubic feet, but additional baggage racks are provided in the cabin proper.

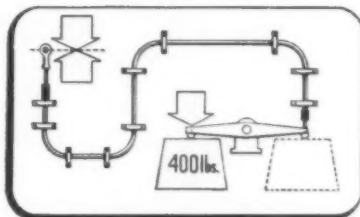
The York is getting its shakedown tests in service of the British Transport Command and BOAC. In addition, a number of the aircraft have been fitted out for important Britishers connected with the war effort. Trans-Canada Air Lines has been using a transport version of the Lancaster in its North Atlantic service, giving a useful payload of about 4½ tons.

Following are some details of the York's

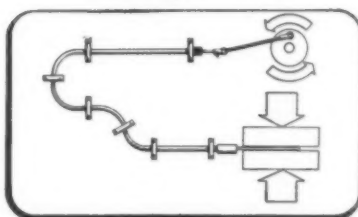


Cutaway of the Avro Company's new airliner.

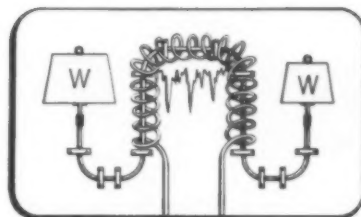
Dependable *all around duty assured* with Simmonds Push-Pull Controls



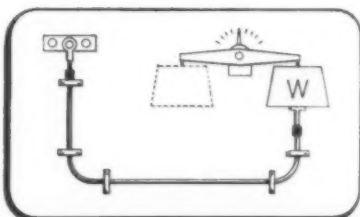
STATIC STRENGTH: In this test Simmonds push-pull control successfully withstands tensile and compressive forces of 400 lbs. Credit simplification of design, improved linkage.



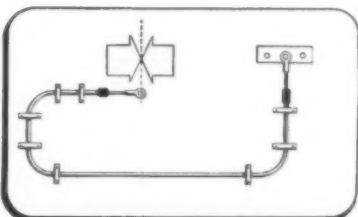
ENDURANCE: Cycled 30,000 times under stress, as illustrated, Simmonds controls are not affected in any way, and can be expected to outlast the life of unit served.



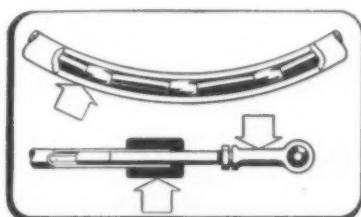
EFFICIENCY: Input-output ratio of control is measured at various temperatures in insulated chamber. Result: average efficiencies are twice the AAF requirements.



PRECISION CONTROL: Motion between tension and compression is negligible. Before endurance test: average—.046"; after—.082". Simmonds are precision-built controls.



DEFORMATION: AAF specifications call for loads ranging from 10 to 50 lbs. Allowable average deformation is .140". Simmonds controls average only .083".



CORROSION: Simmonds controls meet AAF specifications for corrosion resistance with standard cadmium plated or anodized surfaces. Tube ends are rubber sealed.

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performance as published by *The Aero-plane*:

Speeds at maximum recommended cruising power	Sea level 185 m.p.h.
i.e., 50 per cent. of maximum take-off	
h.p.	5,000 ft. 200 m.p.h.
	10,000 ft. 217 m.p.h.
	15,000 ft. 233 m.p.h.
Still air take-off run to clear 50-ft. screen	1,200 yds.
Service ceiling	22,500 ft.
Climb at sea level	820 ft./min.
Average cruising fuel consumption	1.25 miles per gallon
	lon
Maximum tankage for long distances	2,480 gallons

Recent CAB Orders Affecting Air Carriers

3079—Dismissed application of TWA in Docket 1032 at carrier's request.

3080—Denied petition of City of Kansas City, Mo. to intervene in Latin America-Caribbean case, Docket 525 et al.

3081—Granted permission of City of Miami to intervene in Latin America-Caribbean case.

3082, 3083, 3084, 3085—Denied petition of Beech Aircraft Corp. to intervene in Dockets Nos. 570 et al. 415 et al. 152 et al. and 230 et al.

3086—Granted City of Tulsa permission to intervene in Docket No. 651 et al.

3087—Granted petition of Western States Aviation Co. to consolidate its application No. 1509 in the West Coast case, Docket 250 et al.

3088—Granted Department of Justice permission to intervene in the Florida cases, Docket No. 489 et al.

3089—Granted U. S. Maritime Commission permission to intervene in the Hawaiian cases, Docket No. 851 et al.

3090—Granted Northwest Airlines permission to inaugurate non-stop service between Spokane and Portland and between Great Falls and Spokane on Route No. 3.

3091—Denied petition of City of Dallas to intervene for purposes of oral argument in the Milwaukee-Chicago-New York cases, Docket 629 et al.

3092—Dismissed application, Docket No. 1120, of Washington Motor Coach Co. Inc. in West Coast case, Docket 250 et al.

3093—Consolidated Western Air Lines application, Docket No. 825 with West Coast cases, Docket No. 250 et al.

3094—Permitted Braniff Airways to inaugurate non-stop service between Dallas and San Antonio.

3096—Extended temporary exemption in Pan American's certificate authorizing service between New York and Lisbon to permit operation of through planes between Miami and Leopoldville, Belgian Congo, via San Juan, Port of Spain, Belen, Natal and Monrovia, Liberia and authorized suspension of service to Lagos, Nigeria.

Continental vs. Braniff

Continental Air Lines has filed a motion with the CAB asking that Braniff Airways be restrained from making Oklahoma City an intermediate stop on the latter's Route 15 between Dallas-Ft. Worth and Denver, Colo. Continental in its motion said Braniff proposed to inaugurate the Oklahoma City stop about Sept. 20, a move which CAL claimed would provide "destructive competition" to the latter's Routes 43 and 60.

Non-Certificated Applicants Dominate New Route Filings

NON-CERTIFICATED applicants completely dominated the new route filings with the Docket Section of the Civil Aeronautics Board during the last fortnight. Only one certificated carrier—Delta Air Corporation—filed and this was a request to CAB involving a change in its operations between Meridian, Miss. and New Orleans.

Two of the applicants applied for routes to Mexico or South America. Faster Flying Freight, Inc. of Dallas asked for a certificate to engage in non-scheduled air transportation of property and mail over two routes to Mexico City. Skyway Transportation Co., Inc. of Paterson, N. J., asked for routes down both the Atlantic and Pacific coast of South America.

A Kansas City applicant asked for a cross-country freight route over which gliders, towed by twin-engine bombers, would be used.

A brief summary of all applications filed follows:

Delta Air Corporation

This company filed for a temporary exemption which will permit inauguration of direct air service between Meridian, Miss. and New Orleans. (Docket 1565).

Airways Freight, Inc.

Applicant of Suite 1424, 10 S. LaSalle St., Chicago, filed an application for a certificate to engage in freight forwarder operations to all points in the U. S. Alfred D. Davis, president of Transport Terminal Co., and L. A. Chase, an attorney, are the sole stockholders of the company. (Docket 1561).

Air Freight Forwarders, Inc.

This company of 356 Halstead St., Chicago, filed an application seeking to conduct an air cargo service over existing lines of presently certificated air carriers in a territory paralleling the present services of Pacific & Atlantic Shippers' Assn., Inc., a freight handler dealing in general commodities in interstate commerce. J. W. Gimbel, Jr., secretary-treasurer of Air Freight Forwarders, Inc. is also secretary-treasurer of Pacific & Atlantic Shippers' Assn., Inc., the application states.

Applicant proposes to collect shipments from original shippers, consolidate loads for shipments over existing or future air service, and make delivery to the consignee in a territory extending from the New England states southward to Louisiana and westward to the Mississippi Valley on the West Coast. North Dakota and Texas were the only states excepted. The application states that Pacific & Atlantic Shippers' Assn., Inc., maintains offices or service facilities in the principal cities in the states outlined. (Docket 1560).

Faster Flying Freight, Inc.

Applicant of 707 Republic National Life Bldg., Dallas 8, Tex., filed an application to conduct non-scheduled air transport operations of property and mail over two routes between Dallas-Ft. Worth and Mexico City. The application was signed by Arthur Stevenson, president. The company does not now own aircraft. Routes asked are from Dallas-Ft. Worth, via Waco and beyond Waco, Austin, San Antonio, Laredo, Monterey and Mexico City and beyond Waco, Houston, Brownsville, Tampico and Mexico City. Another route would operate be-

tween Houston and San Antonio, thence south to Edenburg, Harlingen, Pharr to Brownsville. (Docket 1569)

Arthur A. Fogarty

This individual, of 458 Bridge St., Springfield 3, Mass., filed for 10 routes to engage in scheduled and non-scheduled transportation of property and mail over 10 routes originating in Springfield and terminating in the following cities, via many intermediate points: Los Angeles, Tucson, San Antonio, Brownsville, Galveston, Miami (two routes) Boston, Portland, Me., Albany and Providence. Applicant does not now own any aircraft. (Docket 1564)

Illinois Air Lines, Inc.

This company of Suite 1424, 10 S. LaSalle St., Chicago, filed for a certificate to engage in feeder type air transportation of mail, passengers, freight, express and property, in scheduled and non-scheduled intrastate operations between the following points: Chicago to Moline, via Rockford; Chicago to East St. Louis, via Peoria and Springfield and Chicago to Cairo, via Danville and Decatur. Nathan R. Kobey, principal stockholder in the Illinois-Colorado Cargo Carriers, Inc., Alfred D. Davis and L. A. Chase are the stockholders of Illinois Air Lines. (Docket 1562)

Kansas City Airways, Inc.

Applicant of 1415 Commerce Bldg., Kansas City 6, Mo.—a Braniff sponsored trade airline—filed for extensive air transportation routes in Kansas, Missouri, Oklahoma and Nebraska, covering 4,552 route miles. The routes originate and terminate in Kansas City and blanket a large portion of both Kansas and Missouri. The company has authority to issue \$600,000 in capital stock, of which \$100,000 has been subscribed, 25% of it by Braniff Airways, Inc. (Docket 1566)

Frank L. Kunath

This applicant of 19389 Stotter Ave., Detroit, filed an application seeking to transport planes, helicopters and other aircraft on delivery from the manufacturer to purchasers or agents. Applicant states that its certificate would be comparable to those issued by the ICC for the delivery of cars from manufacturer to dealer. No fixed terminals or intermediate points were named. (Docket 1568).

Olson Steamship and Navigation Co.

This company of which Vincent Harris Olson, is president, filed an application requesting air transport routes between Los Angeles, San Francisco and Hawaii. The company proposes to carry mail, property, passengers and express. The proposed passenger fare was given as \$85 one way, \$172.50 for a round trip. Freight would be carried at an average rate of 18c a ton mile, package freight at approximately 20c a pound for the 2,450 miles. Air mail would be carried for 8c per half ounce. (Docket 1570)

Donald W. Pennertz

This individual of Alexandria, Minn., filed for an extensive feeder air transport service with routes operating in all directions from Alexandria. The western boundary of the area would be Williston, N. D., and Moberly and Pierre, S. D., the eastern boundary Eau Claire, Wis., Grafton, Minn. on the north, Sioux City, Iowa, on the south. The

applicant proposes to carry persons, property and mail and would use twin engine, 10 passenger planes. (Docket 1571)

Skyway Transportation Co., Inc.

This company of 20 Hamilton St., Paterson, N. J., through Nathan Schwartz, president, filed for routes from Miami across the Caribbean and down both sides of South America. The one route would be from Miami to Buenos Aires, via Santiago, Cuba, Port Au Prince, Santo Domingo, San Juan, Caracas, Georgetown, Rio de Janeiro, Paramaribo, San Salvador, Porto Alegre and Montevideo—4,500 miles, the other from Miami to Santiago, Chile via Kingston, San Jose, Buenaventura, Guayaquil, Lima and Antofagasta—4,225 miles. The applicant, now common carrier operator in New England and Mid-Atlantic states, desires a certificate to carry property and mail. (Docket 1567)

Keith B. Van Zante

This individual of 415 Woodland Ave., Kansas City, Mo., filed an application for air transport of property and mail between terminal points, Los Angeles, Albuquerque, Chicago and New York City, via Phoenix, Kansas City and Pittsburgh. Applicant proposes to use gliders, towed by twin-engine bombers. A company would be formed under the name of the Albuquerque, Burbank and Chicago Air Express. (Docket 1572)

North, Central Pacific International Hearings Likely To Be Combined

The possibility of a consolidated hearing in the North Pacific and Central Pacific international route proceeding loomed last week as applicants in both cases appeared before Civil Aeronautics Board examiners in a prehearing conference to discuss issues and procedure.

A prehearing conference on the North Pacific applications had been scheduled for Sept. 1 but the conference date was postponed to Sept. 15 by Chief Examiner C. Edward Leasure so that it could be combined with a similar conference on Central Pacific applications.

Counsel for many of the applicants, interested in both cases, requested a joint prehearing conference so that the advisability of a consolidated hearing might be discussed.

The routes involved are tentative ones laid out by the Civil Aeronautics Board in its announcement of June 14 relating to possible international postwar expansion by American aviation interests.

Californians Like Hawaii

Seth Richardson, Northwest Air Lines counsel, made some observations on the travel habits of Californians during the CAB's Hawaiian hearing.

In cross-examination of one of Hawaiian Air Lines' witnesses, Richardson established that 42% of the travel between Hawaii and the mainland originated in California, and then asked:

"Would you say that this travel reflects a vain search by Californians to find a liveable climate?"

The reply of the witness was drowned in laughter.

Hawaiian Airlines' President Calls PanAm 'Imperialistic'

Spends Nearly Eight Hours on Stand at Consolidated Hearing

PAN AMERICAN AIRWAYS' attempt to block competition on the Hawaii-California air route was characterized as "imperialistic to say the least" by Stanley C. Kennedy, president of Hawaiian Airlines, last fortnight as hearings in the consolidated Hawaiian proceeding (Docket 851 et al) got underway before Examiners Thomas J. Wrenn and Lawrence J. Kesters.

Another witness, Frazer A. Bailey, executive vice president of Matson Navigation Co., said the shipping company stands to lose a half-million dollars in passenger revenue annually if it is not allowed to operate a coordinated steamer-air service between Hawaii and the West Coast.

As first witness in what was predicted to be a 10-day affair, Kennedy defended his company's application between Honolulu and the mainland and asserted that "if Pan American gets away with this monopoly in United States territory, Hawaii will become just a colony and can forget its dreams of being an autonomous state."

Pan American appeared as an intervenor in the case, along with the Maritime Commission, Department of Justice, Department of the Interior, the ports of Seattle, Tacoma and Portland, Ore., and Los Angeles. Applicants in addition to Hawaiian were Matson Navigation Co., Northwest, Western and United Air Lines, and Ryan Aeronautical Co.

Kennedy spent nearly eight hours on the witness stand, and in that time he made these points: That Hawaii needs a local carrier to concentrate on the development of business between the islands and the mainland; that Hawaiian was prepared to present a divestment plan in the event it was certificated for the Honolulu-California service to divorce the airline from Inter-Island Steam Navigation Co., which presently controls 80% of the airline stock.

In both direct testimony and cross-examination Kennedy brought out the salient factors of the recent Hawaiian-TWA stock deal, whereby the latter purchased 20% of the island airline's stock. He said the TWA deal was made to finance Hawaiian in inaugurating the new route, that TWA would not continue its investment in Hawaiian if the route were not awarded, and that TWA exercised no control over Hawaiian as a result of the deal. He said at one juncture that if Hawaiian was not awarded the route, it was in danger of absorption by United.

Kennedy testified that the "chosen instrument" policy had never been carried out with steamship companies, and were it adopted in air transportation it would constitute "another step in encouraging Pan American's monopoly." He said neither Pan American nor United were interested in developing Hawaiian traffic.

Bailey said that Matson proposed no

divestment between the airline and steamship company, and that the company was asking that the CAB issue it a certificate direct without prejudice.

Capital requirements necessary to set up the airline operation will total \$8,739,000, Bailey said, adding that Matson has \$39,000,000 readily available for such financing. He said Matson proposed to inaugurate its air line with full service over all four proposed routes between Hawaii and the West Coast at reasonable rates, and that these rates would be reduced as passenger volume increases.

Matson Fare: \$157.50

Matson's basic fare between Hawaii and California will be \$157.50 one way for day service, and \$168.30 for sleeper service in DC-4's. Bailey said a minimum of 31,000 passengers annually would be required for Matson's air operations to break even.

Other Hawaiian witnesses covered the traffic and operational phases of the proposed route, and the potential cargo which could be developed over a period of years.

Alvin P. Adams, vice president of Fairchild Engine and Aircraft Corp., who was loaned to Hawaiian to prepare its traffic surveys on the proposed route, made these points: Hawaiian plans to use DC4 equipment, which will carry an average of 25 passengers the year around; traffic over the route should support two round trips a day by the third year of operation; the airline anticipates a loss of \$155,000 at the end of the first year, and profits of \$509,000 at the end of the second year, and \$706,000 at the end of the third year if a "V" type operation is used, or \$512,000 if a triangle route is used; the route would be operated without mail subsidy.

Adams testified that the airline should be able to haul 300,000 pounds of cargo a month at a rate of 30c a ton mile, westbound. Passenger fares would be \$150 one-way, but Herman Phleger, counsel for Matson, took issue with that figure, saying the fare would be \$158.75, including an excess baggage charge.

Harold B. Cady, manager of Inter-Island Steam Navigation Company's claims department, said he had undertaken a survey of the freight possibilities over Hawaiian's route and forecast a heavy movement of such materials as drugs, jewelry, ladies ready-to-wear, fresh fruits and fish.

PAA Service 'Inadequate'

Under questioning from Leslie Craven, Cady said he did not think Pan American's present service was adequate, and that he had never considered it a freight service. He said it was an express service.

Ford Studebaker, former assistant operations manager of American Export Airlines, who was employed to set up operating details for Hawaiian, said no less than three DC-4's could be operated the first year, and that five would be needed in the third year of operations. A six-man crew will be used, along with the trans-Pacific facilities of the CAA and Weather Bureau. A total of 325 employees will be needed to set up the operation.

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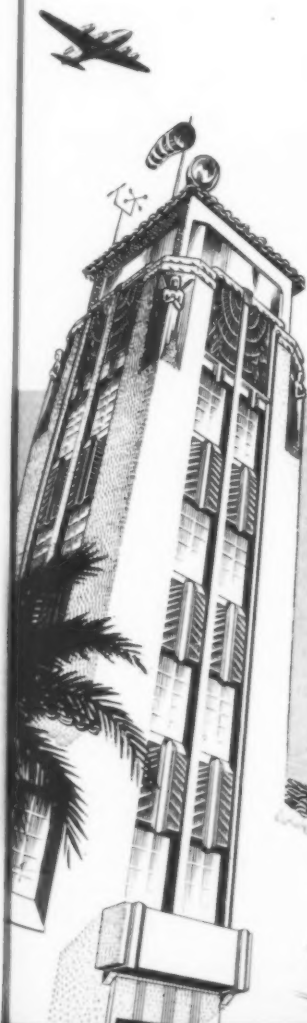
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CURTISS-WRIGHT TECHNICAL INSTITUTE...BEFORE THE WAR • DURING THE WAR • AFTER THE WA

Fourth Coast-to-Coast Route Again Discussed Before CAB

More Air Services For Detroit Given Board Consideration

TWO ISSUES—one involving a fourth transcontinental carrier to serve the northern boundary of the United States and another for additional transcontinental air transport service for Detroit—were discussed in oral argument before the Civil Aeronautics Board in the Milwaukee, Detroit, Chicago case early this month.

Northwest Airlines' application for an extension of its route from Milwaukee to Detroit, Cleveland, and New York, was endorsed by some of the applicants and most of the interveners, including the Port of New York Authority, through its counsel, Wilbur LaRoe, Jr.

Assistant Chief Examiner Francis W. Brown and Examiner William F. Cusick had recommended the extension of Northwest from Milwaukee to Detroit to New York. In addition they urged that PCA be extended from Pittsburgh to New York, together with a non-stop privilege between Detroit and Chicago. American Airlines request for a consolidation of its routes 7 and 21 and a part of 23 also received the favorable recommendation of the examiners. The examiners had recommended that applications of United, Colonial, TWA, Braniff, and Chicago and Southern be denied.

Importance of the fourth transcontinental from both the viewpoint of supplying the Puget Sound area with a shorter, more direct route to New York, as well as the need for such a route in postwar international aviation to compete with Trans-Canada, which operates just north of the border, was stressed.

"Northwest can be extended to New York at a cost of approximately one million dollars. This same sum would build approximately 20 miles of railroad," LaRoe stated. He said the granting of Northwest's proposal would place this country in a position to compete with Trans-Canada and her foreign collaborators in the postwar era of aviation.

Stanley G. Morris, counsel for PCA, argued for the Pittsburgh-New York extension from both the standpoint of public interest and PCA's need. He said there is a place in any sound system of air transportation for a strong point-to-point carrier and added that this was the place to strengthen PCA because the route was in an area now served by his company.

United Air Lines, through its counsel, John T. Lorch, argued against American's proposal to consolidate routes in the northern New York and New England area. He contended that such a consolidation would give American new competitive advantages through non-stop privileges which were a part of American's case. American, on the other hand, said many economies of operation could be provided through the consolidation, and it would result in improved service to the public. It was pointed out that record keeping on inter-route mail pouches, required by the Post Office

department, would be greatly reduced by the consolidation.

Braniff Airways' counsel, Roger J. Whiteford, stressed the need of Braniff to get into the more populous centers like Detroit and New York to meet the competition which transcontinental carriers were giving his company along its routes from Texas to Chicago.

Leonard P. Moore, of TWA, arguing for a route between New York and Chicago, via Detroit, said Detroit was the forgotten city in air transportation. He said Detroit's great need was for transcontinental service to points on TWA's system. He argued against the granting of PCA's application on the grounds it would jeopardize 44% of TWA's business.

Colonial Airlines' counsel, Alexander C. Dick, said the examiners apparently had



PCA's New Badge—This insignia has been adopted by Pennsylvania-Central Airlines and will soon identify all of the airline's planes, facilities, and advertising. The company hopes the public will use the abbreviation rather than "Pennsylvania-Central" or "Penn-Central", as has been the practice.

not given serious consideration to the carrier's application, especially with reference to a new type of service which he asserted would be dedicated largely to the local needs of cities between New York and Detroit and between New York and Chicago.

Braniff Tells CAB Examiners Plans for Mexican Operations

Says Mexico Desires Competition for PAA; EAL Fires Questions

COMPLETE DETAILS of his company's plans for operating more than 7,000 miles of air transport routes in Mexico were laid before examiners of the Civil Aeronautics Board by T. E. Braniff, president of Braniff Airways, during the past fortnight.

Mr. Braniff appeared as a witness in behalf of Braniff Airways' application, which seeks to acquire the entire capital stock of Aerovias Braniff, S. A., a Mexican corporation which was created to receive the operating franchises given by the Mexican government. Mr. Braniff is head of the Mexican subsidiary. The hearing was conducted by Examiners William F. Cusick and Curtis C. Henderson.

Asserting that Pan American Airways, Inc., an intervener in the case, had failed signally to develop the air transport potentialities of Mexico, Mr. Braniff told the examiners that he had acquired the franchises for routes in Mexico with the full cooperation of the Mexican government. He testified that Mexican officials desired competition for Pan American and its subsidiary companies and, when he visited Mexico City, they were ready to grant franchises to any outside operator with sufficient capital and experience.

Eastern Air Lines also was an intervener and its counsel E. Smythe Gambrell questioned Braniff extensively on dates and stages of negotiations with the Mexican government. He thus laid the groundwork for later questions pertaining to Braniff's alleged violation of the spirit of a joint statement on international policy made by the State Department and CAB Oct. 15, 1943. Gambrell contended that this statement made it clear that the State Department would negotiate the operating rights in foreign countries.

Mr. Braniff asserted that after he had

obtained the route franchises from the Mexican government, he had made a special trip to Washington to explain to Government officials what had been done. He said none of these officials expressed any objection.

Asked by Gambrell who these American officials were he said he had talked with Adolf Berle of the State Department; Jesse Jones, William Clayton and William A. M. Burden, of the Department of Commerce; Edward Warner, vice chairman of CAB; and Nelson Rockefeller and Percival Cox of the Office of Coordinator of Inter-American Affairs. Braniff said if CAB failed to give approval to either of the applications other arrangements would be made to operate the routes embraced in the franchises held by Aerovias Braniff. He said the Mexican subsidiary was prepared to start operations in 60 days after approval was given.

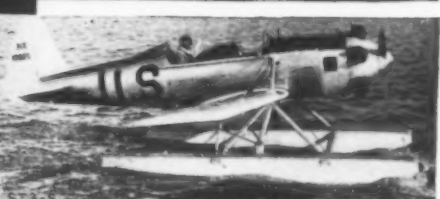
C. G. Adams, a director and treasurer of Aerovias Braniff, S. A., sponsored exhibits at the CAB hearing which contained an estimate that the Mexican subsidiary would be able to operate the first year at a loss, before mail pay, of \$30,440.

The first year's revenue, based on a capital investment of \$1,200,000 was estimated at \$2,119,052 with operating expenses figured at \$2,149,492. Operating revenue was figured at 73.03 cents a revenue mile and operating expenses at 74.08 cents a revenue mile.

Aerovias Braniff proposes to use the converted military model of the Douglas DC-3 and its estimates listed the cost of these planes at \$50,000 each. The company has franchises for approximately 7,600 route miles, which includes extensions to the Miami and Los Angeles gateways on the north and Panama to the south. When the Mexican corporation was originally formed, the system embraced 3,067 miles. Additions, one of them through purchase of a franchise held by a Mexican company for \$15,000, has brought the total route mileage above the 7,000 figure.

for Victory!

FLOAT PLANES THAT SERVE THE UNITED NATIONS



EDO AIRCRAFT CORPORATION, 407 SECOND STREET, COLLEGE POINT, N. Y., U.S.A.

Airline Commentary

Memo to W. W. P.:

Some of the airline traffic people think you went 'way off the beam in the last issue when you said in your editorial on travel bureaus that three-fourths of the airline traffic before the war was pleasure. I am inclined to agree with the airline traffic men that your percentage of pleasure travel was too high. Remember the survey the airlines conducted before the war when passengers were asked whether their trips were for business or pleasure, and about seventy-five per cent of the answers were business? How about it?

E. B.

Memo to E. B.:

Thanks for letting me see your memo before printing it in your column. My informant on the 75% pleasure percentage was an old-time highly-regarded airline traffic man. I admit he's prejudiced on the side of pleasure travel and maybe his figure was high, but that survey you spoke of wasn't a good gauge either. I remember signing several times that questionnaire which ATA put in all planes before the U. S. entered the war. The airlines were trying to justify the usefulness of the airlines, as they had a great right to do. But a world war was in progress when that questionnaire was distributed and most of the travel in those days was for business purposes. I was referring in the editorial to what can really be considered prewar days, i.e., long before it was certain that the U. S. would be in the war. Of course I may be all haywire about the 75% ratio and I'd like to see you dig up some comments from the airlines.

W. W. P.

When an airplane is turned back to an airline by the Army a lot of work has to be done on it before it is ready to fly commercially . . . Sometimes it has taken a couple of months to get plane in service . . . PCA now claims a new record—15 days . . . This is not only remarkable—it's almost phenomenal . . .

Several issues ago we said we'd been told by various people that the airline priority system was not working too well—that a lot of passengers were getting priorities to which they weren't entitled . . . We asked readers to let us know of any specific instances . . . After that item appeared, an Air Transport Command officer called and said if any specific instances were forthcoming he'd like to know about them . . . Well, specific instances have not been forthcoming, but people continue to gripe to us personally . . . To cite an example, one fellow got stuck in Memphis on a Saturday recently and said he couldn't figure out why there were so many priorities, especially civilian priorities, on a Saturday afternoon and evening . . . Maybe he's got something there . . . Anyhow, if there are to be any more gripes, let's make them specific . . . ATC would like to know . . .

Those of you who ride the airlines may have noticed the envelopes in the seat pockets, addressed to the president of the line you happen to be riding . . . You're invited to write your comments about the company's service and mail them to the president . . . A passenger on an early morning flight recently made use of the envelope . . . "I have just eaten breakfast," he wrote the president, "and it left absolutely nothing to be desired—except breakfast" . . . A trifle sarcastic, we thought . . . Must be one of these fellows who doesn't speak to anyone for three hours after getting up in the morning . . .

Here's the story of the growth of an airline . . . We were reading Pennsylvania-Central Airlines' July traffic report recently and noticed that in that month the com-

pany carried 43,856 passengers . . . That, friends, is a terrific number of passengers for a company the size of PCA to be hauling around with 11½ airplanes (11 were in service until July 15, when the 12th one was added) . . . It means that every day 1,415 people flew PCA . . . PCA Publicityman Ray Bell supplied us with some figures for comparison . . . In July, 1934, the company (then Pennsylvania Airlines) carried 1,696 passengers and flew 164,952 revenue miles . . . Five years ago, in July, 1939, 11,492 passengers were carried and 316,948 revenue miles flown . . . This year the figures were 43,856 and 517,654 . . . In other words, PCA now carries in one day almost as many passengers as it carried in one month 10 years ago . . . This is just one example of how an industry has grown . . .

We'll bet that Mary Lou Mulkey, Pennsylvania-Central hostess, is gonna be a little more careful in the future . . . Recently she leaned over to talk to an admiring passenger and received a great big kiss on the cheek . . . Back off three steps before you lean over next time, Mary Lou . . .

These airline co-pilots are certainly a busy bunch of boys . . . When we were in Minneapolis recently we discovered that an NWA co-pilot named McCarthy runs a high-class eating establishment called "McCarthy's" . . . Between trips, First Officer McCarthy is the charming host . . . We ate there, and the steaks were wonderful . . . And now a friend of ours from the west coast tells us about the American Airlines co-pilot who has installed 38 popcorn-vending machines in and around Los Angeles . . . His income from them, we hear is considerably more than he makes flying . . . Industrious fellows, aren't they? . . .

When fellows from different airlines get together there's always a little kidding back and forth . . . Joe Kilgore of Chicago & Southern was in such a group not so long ago in Chicago, and his friends were kidding him that C&S stood for either "Canceled and Set" or "Crash and Smash" . . . So Joe, quick on the draw, came right back and told them that C&S meant "Courtesy and Satisfaction" . . . And that ended that . . . Pretty good answer, we think . . .

A couple of women went into one of Pan American Airways' traffic offices the other day and wanted to deposit \$1,000 each for passage on the first Clipper leaving, when service is restored, for Manila, in the Philippines . . . We now discover that this happens quite often . . . About 600 people have asked to be put on the list for flights to such places as Paris, Marseilles, London—even Berlin . . . PAA explains that there are no flights for ordinary travelers . . . Further, it doesn't take their money, but some offices, we understand, makes a note of their names and the time they applied . . . Quite a backlog is building up . . .

An Army lieutenant who was going to make a trip on Chicago & Southern recently wrote to the company and said that if, for any reason, he were removed at Houston, could C&S please furnish a blond to entertain him until train time . . . C&S, in reporting the story, merely states: "Having a sparse supply of blonds on hand at the time, we naturally could not reply in the affirmative" . . . Tut, tut—we're disappointed . . . We thought C&S Publicityman George Bounds could produce anything! . . . And such a trivial request, too . . .

Eric Bramley

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Corsair Stamina

The rugged construction of the Vought Corsair enables it to take severe punishment from enemy guns and still get home. The ability of this fighter to "dish it out" is a familiar story. Navy and Marine pilots also know its ability to "take it."

CHANCE VOUGHT AIRCRAFT
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ONE OF THE FOUR DIVISIONS OF UNITED AIRCRAFT CORPORATION

TRANSPORT

Executive

C. Wesley McMonagle, assistant treasurer of Alaska Airlines, has been elected treasurer and a member of the board. He was formerly connected with the accounting division of United Air Lines in Los Angeles and Lockheed Air Terminal Corp. in Burbank.

C. C. Thompson, vice president-public relations of United Air Lines, is celebrating his 15th year with the airline this month.

Traffic

Stewart Faulkner, formerly with the material sales division of Lockheed Aircraft Corp. and for seven years a member of the publicity staff of American Airlines, has been appointed assistant general traffic manager of Alaska Airlines in Anchorage.

William L. Morrisette, Jr., assumed direction of Eastern Air Lines' recently opened St. Louis office on Sept. 1. He was formerly EAL's city manager at Baltimore.

William F. McGrath has been named traffic manager of TWA's newly created transportation department.

Wanna Caspers has assumed her duties as counsellor for Western Air Lines in the Butte, Mont., office, replacing **Mary Ann Fisher**, who was recently promoted to counsellor-supervisor at Western's new offices in Denver.

Lawrence E. Apitz has been appointed sales control manager for United Air Lines at Chicago.

Merle I. Gallagher, assistant to R. L. Doble, United Air Lines' vice president in charge of eastern operations, has been named Boston station manager for the airline.

Operations

W. C. Lawrence has been named chief engineer of American Export Airlines, heading a new department formed by the combination of the former engineering sections of the operations and maintenance departments.

Capt. J. M. Peterson, **S. A. Tombs**, **R. R. Heard** and **K. J. Brinnon** of Northwest Airlines have been transferred from Minneapolis to Seattle to handle a resumption of service to Portland, Ore. Seven co-pilots also figured in the NWA crew transfer. They are **E. F. Lemly**, **C. J. Cole**, **A. Alldredge**, **E. J. Shear**, **H. O. Muto**, **J. A. Pieper**, and **W. F. Roth**.

Marion McClintic, Pennsylvania-Central Airlines hostess, has been appointed director of hostess training for PCA.

Lt. Comdr. States Mead, USNR, who pioneered PAA Atlantic route bases (Foyes, Southampton, Horta, Lisbon) from 1937 to 1941 as airport manager and operations representative, is in Washington at present as assistant to the director, Naval Air Transport Service. In 1941, Mead, a Naval Academy graduate,

Airline Personnel



Faulkner



Gallagher



Thurston



Lawrence



Tunis



Caspers



McClintic



Raven



McGrath



Shaunty

was called to active duty with amphibious forces. A year later he was assigned to the development of NATS in the Pacific from the staff of Admiral Nimitz. Thereafter, his assignments with NATS included participation with the Army and CAA in the development of the Ocean-Air-Traffic Control centers in the Pacific and service with a joint Army-Navy Air Mission in South America.

Capt. A. E. Wilson has been transferred to the flight engineering department of Pennsylvania-Central Airlines. **Capt. J. A. Brooks** succeeds him as assistant chief pilot for PCA's eastern division at Washington National Airport.

Elizabeth Tunis has been appointed chief flight stewardess for the Latin American division of Pan American Airways. She will headquarter in Miami.

Miscellaneous

Col. Harry S. Short has been named general manager of Continental Air Lines' Denver modification center, succeeding **Stanley R. Shatto**, who remains with the airline as vice president of maintenance and engineering. Col. Short was assigned as commanding officer of the 318th Sub depot, Morrison Field, before returning to civilian life.

Charles Wesley, Pennsylvania-Central Airlines porter, recently was awarded a gold pin in recognition of 10 years service with the airline in Detroit.

John B. Thurston, attorney and public accountant, has joined the executive staff of TWA in Kansas City, Mo., as head of the airline's new Industrial Engineering Division.

George Estill, assistant to United Air Lines' director of military operations has been named supervisor of cargo service procedures for the airline.

Robert H. Helmer, aviation editor of the "Cincinnati Enquirer", has been named central regional manager of TWA's news bureau, with headquarters in Chicago.

Howard K. Morgan, superintendent of communications for TWA, has been appointed director of engineering.

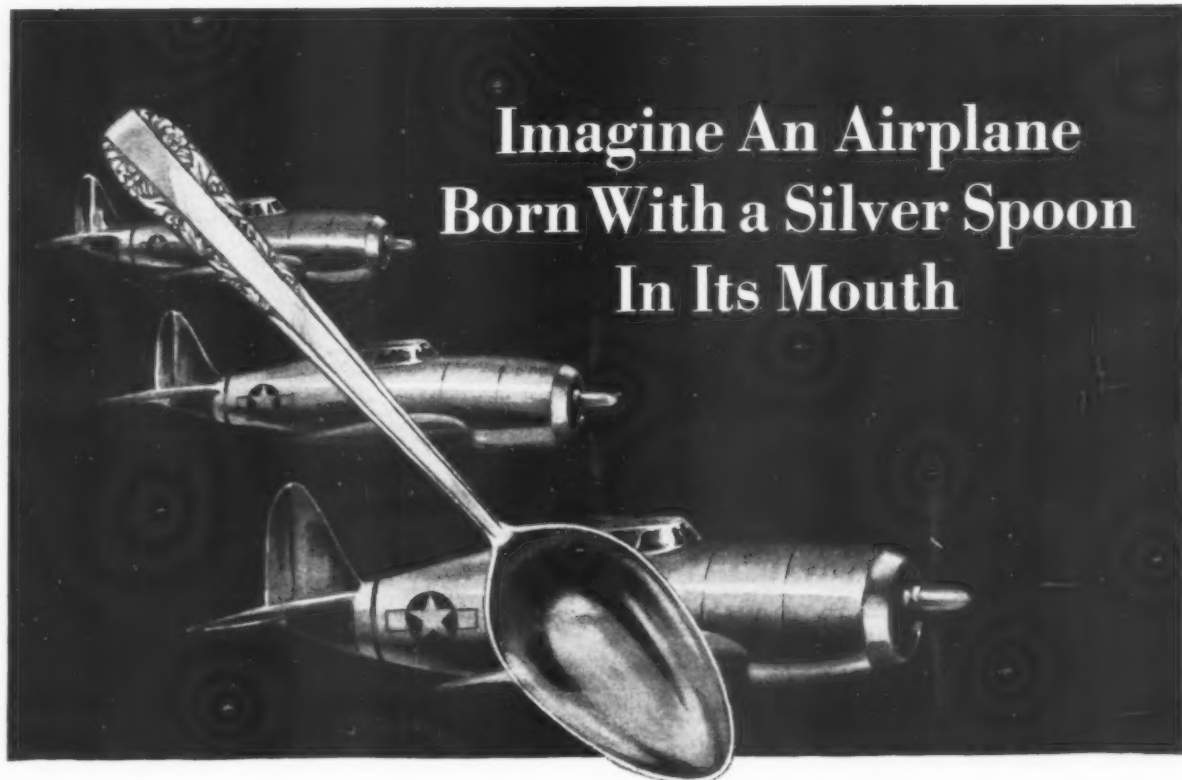
H. Ainsley Highman, New England executive of United Air Lines, has been appointed administrative supervisor on the Atlantic Seaboard.

Robert M. Averill, assistant to Vice President Robert J. Wilson of Pennsylvania-Central Airlines, has been appointed chairman of the ATA's State Relations Committee.

Eugene A. Raven has been appointed assistant director of advertising in charge of agency and direct mail activities for United Air Lines.

James A. Shaunty has been named assistant ground manager of the TWA Inter-Continental Division as Washington.

Imagine An Airplane Born With a Silver Spoon In Its Mouth



LESS THAN TWO YEARS AGO, fighter planes powered with 2000 horsepower engines first winged their way to fame—and victorious combat. Literally, each was born “with a silver spoon in its mouth,” which is to say its tough, durable engine was equipped with Mallory silver-bonded bearings.

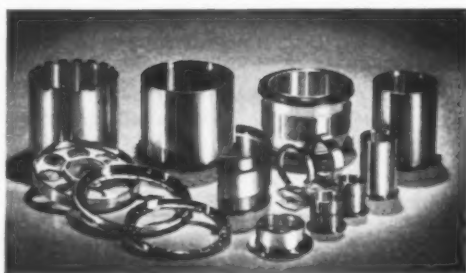
Through the Mallosil* Process of bonding rare metals to base metal backings—plus precision

production and improved methods of inspection—Mallory provides a bearing that withstands constantly higher speeds, greater impacts, increased pressures. In the Mallosil Process exact control is inherent, which insures uniformity and dependability for master connecting rod bearings, rocker arm bushings, pinion races, counter weight bushings, spacers, oil seals and other aircraft engine parts.

Although Mallory bearings are now devoted to war production, it is not too soon to consider them in connection with your future plans. Having helped to revolutionize engine performance in the aircraft industry, they are readily adaptable to the automotive, marine, railway, machine tool, rolling mill and turbine fields.

Talk it over with Mallory engineers. Do it now—while designs are still in the blue print stage.

*Reg. U. S. Pat. Off.



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SERVES THE AVIATION, THE AVIATION-INSTRUMENT AND THE AVIATION-COMMUNICATION FIELD WITH WELDING TIPS, THE MALLOSIL* PROCESS—BEARINGS, SPECIAL ALLOYS,

Standardize Pilots' Physical Exams, Say CAA Aviation Medical Authorities

The need for a uniform policy in determining the physical standards for pilots, both private and commercial, was stressed by three members of the Civil Aeronautics Administration's aviation medical division at the recent convention of the Aero Medical Association in St. Louis.

Dr. W. R. Stovall, chief of the CAA's aviation medical division, declared that the physical standards of the private pilot is important to the public "because the public's safety is concerned." He said the pilot himself is concerned because he wants to be sure that he is fit to fly.

"We are convinced from our review of hundreds of thousands of physical examination reports and correspondence . . . that there is a strong sentiment for physical fitness and this should be weighed against the dissatisfaction that has been expressed," Dr. Stovall said. "Our concern is primarily for public safety . . . It is the public who should decide whether a status quo in the physical examination of the private pilot should be maintained until the need for change can be more convincingly demonstrated."

Dr. Stovall said the CAA's Safety Bureau is now circulating for comment within the industry two proposals with respect to physical requirements for student and private pilot. One would prescribe a physical examination every two years by a qualified physician of the pilot's own choosing. The other would prescribe but one physical examination by an authorized CAA medical examiner.

Malcolm Y. McCormick, CAA medical analyst, drew a comparison between the licensing of motor vehicle drivers and private pilots, declaring that of approximately 4½ million accidents of all kinds occurring annually in the U. S., one-

third were due to accident-prone drivers.

He said clinics set up for the examination of drivers who had been involved in accidents established that accidents have occurred much more frequently among the mentally and physically handicapped. "It seems highly possible that the findings in the field of motor vehicle traffic might have some relevance to the field of aircraft traffic," he added.

McCormick urged physicians who are making examinations for the CAA to be accurate in their examination reports, since "accurate determination of the physical and mental characteristics of the pilot and pilot applicant is regarded as fundamental and is the basis of our approach."

Dr. F. W. Smith, chief of the CAA's physical standards section, counselled doctors to be consistent in their physical examinations, and to base their examinations on the applicant's physical condition, not such factors as social standing, occupation, the purchase of an airplane, or "high pressure" stories.

Cordova Charges Alaska With 'Stalling' Over Deal Disapproved by CAB

Cordova Air Service, Inc., has filed a complaint with the CAB (Docket 1576) alleging that Alaska Airlines is "stalling" in the settlement of its proposed acquisition of Cordova, which the CAB disapproved last June 27.

Cordova charged that Alaska was attempting to obstruct its operations for the "purpose of creating a situation which make the Board believe that Alaska Airlines is entitled to the reissuance of a temporary exemption just rescinded in order to offer additional service in Cordova's territory."

The CAB originally granted Alaska a temporary exemption to operate in Cordova's territory May 5, 1943, and subsequently terminated the exemption last Aug. 2. Cordova in its complaint said that it had experienced some difficulty in settling matters of the disapproved acquisition, among them the fact that its planes were to be returned to flying condition.

Cordova has resumed service over its three scheduled routes and also over its irregular routes in Alaska's third judicial district, the complaint stated. The company said it was handling the local traffic in a better manner than when Alaska was the operator.

Teletype Aids Mid-Continent

Mid-Continent Airlines has installed a teletype system between Minneapolis, Omaha and Kansas City, which is expected to reduce traffic on the company's radio system to one-half, according to John A. Cunningham, vice president of operations. The circuit is expected to speed up delivery of reservations messages from cities on MCA's routes not included in the teletype system.



Detroit Welcome—When the celebrated Navy flyer, Commander Edgar E. Stebbins, arrived in Detroit recently to deliver the Army-Navy "E" to Woodall Industries, Inc., he was greeted by Herbert Woodall, left, president of the company, and Capt. Eddie Rickenbacker, president of Eastern Air Lines, who happened to be at the airport.

Convenience and Necessity

Efforts are being made by Arthur H. Tully, Jr., state director of aeronautics for Massachusetts, to induce the Civil Aeronautics Board to assign the hearing on the New England route cases to Boston. Bob Sibley, aviation editor of the *Boston Traveler*, stated recently that there is precedent and, borrowing CAB's own language, there is "convenience and necessity."

Association of Railroads Issues Study of Airlines

The Association of American Railroads has issued an "Initial Study of Air Transportation," prepared by its Air Transport Subcommittee. Although the study was compiled primarily for railroad personnel, R. V. Fletcher, chairman of the Railroad Committee for the Study of Transportation, said it "Should be of interest and value to all persons interested in transportation and its future development."

The 63-page booklet covers such subjects as basic technical data on the operation of aircraft; fuel and operating costs; a history of development of the airlines, their growth and future prospects; air passenger travel—factors encouraging and discouraging it; air mail and cargo, and route expansions. Also covered are the governmental facilities and services related to air transportation and Federal air legislation and regulation.

Fifty-eight tables, diagrams and illustrations are employed in the study, whose facts were assembled largely from aviation sources, and from reports of organizations interested in promoting transportation by air. No attempt was made to suggest to the railroads what their specific relation to air transport should be.

AMEX Wants NY-Lisbon Route Made Permanent

American Export Airlines has filed an amended application under Docket 238 asking that its temporary certificate between New York and Lisbon, Portugal, be made permanent, and that permanent certificates be issued for other foreign routes requested in AEA's original application filed May 9, 1939 and subsequent amendments thereto.

Under the original application and subsequent amendments, American Export seeks permanent certificates between the U. S. and Great Britain via 'Eire with extensions to the co-terminals, Chicago, Boston and Washington, D. C. Other terminal points named in the applications and amendments include Singapore, British Malaya and Sevastopol, U.S.S.R., via Paris, Zurich, Rome, Athens, Cairo, Calcutta, Bangkok, Istanbul and Bucharest.

AMEX was issued a temporary certificate to operate between New York and Foynes, Irish Free State, Feb. 10, 1942, with Lisbon as an intermediate stop, but action on other aspects of its applications was withheld by CAB because of the war.



**EACH "BURST OF FIRE" PUTS 12 RIVETS
(COUNT 'EM TTTTTTTTTTTTTT) INTO THIS
WARPLANE WING...PERFECTLY...NOISELESSLY**

Plane production goes at a fast clip when rivets are put in perfectly 12 at a time. That kind of speedy riveting, replacing setting individual rivets by noisy pneumatic rivet guns is production with a capital "P". It speeds warplane production and means lower costs to the taxpayer.

Ryan was foremost in the application of multiple hydraulic riveting to aircraft work. These new methods aren't just "something that happened". Their development at Ryan is the result of far-sighted planning of methods to combat the shortage of labor, and get more airplanes into the air at our fighting fronts.

This wholesale riveting technique is new and unique in the industry. Cooperation is being extended to other airplane manufacturers in giving them full technical information on the advanced "gang riveting" methods developed by Ryan—methods which are symbolic of this pioneer company's leadership in aircraft design and engineering for production... in wartime and in peacetime.

THE PROBLEM: The outer wing panel skin of the potent warplane shown in the illustration contains about 5,000 rivets. Ordinarily it would take eight workers (four good riveting teams of two people each) two-and-a-half hours to complete this job using noisy pneumatic rivet guns and setting one rivet at a time. How to cut these work hours?

THE SOLUTION: Ryan production experts introduced multiple hydraulic riveters larger and deeper throated than ever attempted to be used before. Using a specially designed overhead conveyor system, the entire riveting job is now completed in an hour-and-a-quarter by three workers, (one operator and two unskilled helpers.) Because a machine sets the twelve rivets at a single stroke of the ram, absolute uniformity and perfection of workmanship is gained.

THE ADVANTAGES: On assemblies adaptable to Ryan's "super-gang riveting" technique great savings in man power are possible. Rivet gun marks, skin waviness and swelled rivets between skin layers are eliminated. And, no special training of the operator is necessary; women can be used as readily as men. Figuring up the man-hours saved by the perfection of this single production idea, as applied to the eight multiple hydraulic riveters in operation in the Ryan plant, the amount totals some 1500 man hours per month... the equivalent of the work of about 75 people.

RELY ON RYAN TO BUILD WELL

1922-1944



RYAN
AIRPLANES

Ryan Aeronautical Company, San Diego—Member, Aircraft War Production Council, Inc.

DESIGNERS AND BUILDERS OF COMBATANT TYPE AIRPLANES AND EXHAUST MANIFOLD SYSTEMS

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New Device Permits 15 Landings an Hour

Slide-Rule-Like Timing Computer Employed in Final Approach; Procedure Developed by AA Pilot

A REVOLUTIONARY instrument approach control procedure, developed by Capt. S. P. Saint, engineering pilot of American Airlines, was revealed in tests at Mitchell Field, New York, on August 29 in co-operation with the Army, Navy and CAA. Compared with present practice which accommodates one landing every twelve minutes or five per hour, the first trials of the new technique showed four times the present number of landings can be handled. Further experimentation is expected to step this up to twenty landings per hour, for which the system has been designed.



Capt. Saint

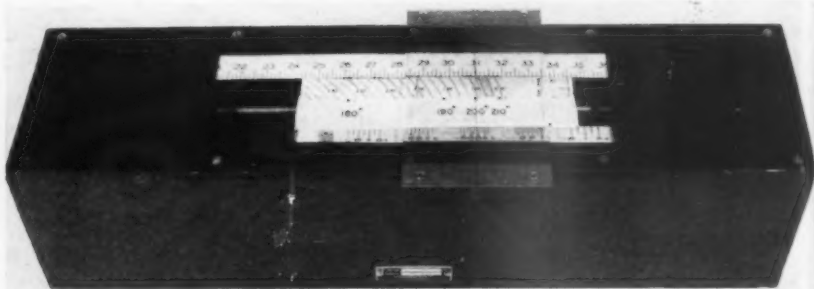
Observers of the tests, including officials of the major airlines and representatives of the military, were favorably impressed and recommended that the project be pursued energetically.

Capt. Saint, key figure in the development, originally conceived the system while flying on the line and has more recently been attached to AA's engineering department where he has been spearheading the effort.

An integral part of the procedure, a slide-rule-like timing computer employed in the final approach, has been developed through technical teamwork of AA and the General Railway Signal Co. of Rochester, N. Y. For several years, the latter firm's technical staff has been working on an overall system of airway traffic control. Although it is presently too early to tell, the computer developed specifically for this project may become a part of the complete system, according to the manufacturer.

In the recent demonstration, five airplanes—one Army, two Navy and two airline craft—flew two approach problems, starting with the flights stacked in the holding pattern. Although the flying was done on the Mitchell Field approach facilities, the control point was American Airlines' operations office at LaGuardia. On the first trial, the five planes were landed in 24 minutes, from the start of the first approach to the end of the last. The second time, the five were landed in 20 minutes and all crossed the range station on the final approach in 16 minutes and 40 seconds.

According to Saint, the two obstacles to a more efficient approach control technique in the past have been: (1) the lack of a systematic method for spacing flights uniformly on the approach path and (2) the necessity for an infallible channel of communication to permit instantaneous



This device is an intricate part in the approach control system recently demonstrated by American Airlines. Designed by Capt. Samuel P. Saint, Engineering Pilot of American, and engineers of the General Railway Signal Co., the instrument considers wind conditions and airplane locations in order to maintain proper spacing intervals between aircraft in landing patterns. Photo below shows computer in operation.



change of instructions to a following flight in the event of a missed approach and the possibility of danger because of only lateral separation between two aircraft. This new procedure is said to eliminate both of these difficulties.

The solution of the infallible constant communications problem is provided by the use of positive altitude separation throughout every stage of the approach. No flight is cleared to a lower altitude until the flight ahead has vacated that altitude and its report of having vacated has been received by the flight controller and an independent monitor. This maintenance of altitude separation in the Saint system assures that the safety factor cannot be affected by either misunderstood instructions or errors of controller or pilot. Static interruption or communications failure does not interfere since each aircraft will simply hold its separate altitude.

Flights are cleared into the approach pattern on altitude separation. Until being taken over by the approach controller, flights will be laddered down through the usual ATC channels in 1,000 foot increments maintaining the "basic holding pattern" designated in the illustrated diagram. The use of this pattern confines the approach activity to a considerably smaller horizontal area than present practice.

The final clearance to land for an aircraft which has been stepped down to 2,000 feet is broken into two parts: the first instruction being to begin a procedure turn and descend to 1,200 feet (at LaGuardia Field; this figure will vary with the airport). From this position, the aircraft on completing the procedure turn and coming over the outer marker at 1,200 feet, as shown on the diagram, will normally be cleared to land.

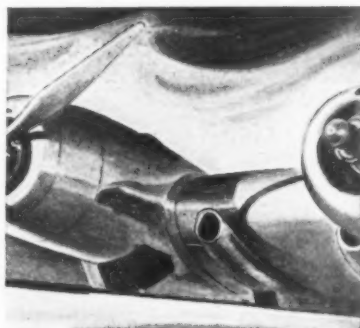
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AIRCRAFT BLANKETS

Another type of Fiberglas thermal insulation, these fireproof blankets (known as Design No. 3) are made of Fiberglas Insulating Wool, Type N, faced with Fiberglas Cloth and stitched with glass thread. Available in 1½ lb. and 3 lb. densities, they are extensively used to insulate gasoline heater exhausts, heat exchanger ducts, other high temperature pipes, etc.

TAPES

Another all-glass product—woven from Fiberglas yarns. While extensively used for insulating motors, generators and other electrical equipment, many other applications have been found for these durable, incombustible tapes in aviation—such as covering of thermal insulations on hot air ducts, ties for removable insulating pads, etc.

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The use of Fiberglas cloths as base fabrics for coating with natural or synthetic rubbers, vinyl compounds and other coating materials, provides a finished material having new and unusual qualities—great dimensional stability and strength under the most severe conditions of humidity, temperature and hard usage in combat. Widely used in the fabrication of gun bore sight screens, insulation covering, flexible connections, bunks, fuel cells, distillate tanks, many other items.



EQUIPMENT

flights on the approach path is the provision of two homing stations on the path; these are labeled outer marker and inner marker on the LaGuardia Field diagram. The standard Army setup for such stations fixes the outer marker at four and one-half miles and the inner at one mile from the end of the runway.

The efficiency of the Saint system is built around the compact and specific spacing of the flights on the final approach. The reference point for timing or spacing is the crossing over the outer marker at 1,200 feet on the inbound leg of the procedure turn. The accomplishment of providing twenty such approaches per hour is made possible by the use of the computer jointly developed by Capt. Saint and the engineers of General Railway Signal Company.

The illustrated computer used in the tests is not an operational unit in final form but rather an experimental model manufactured to prove the basic principles of operation. Its manual operation in its present form bears out its resemblance to a slide rule. The manu-

Since it is possible that the aircraft may be at any point on the basic holding pattern at this time a wide red band around the drum to the right of the fine line (i.e. later in time) shows the latest time at which the procedure turn may be initiated if the aircraft is to be "on time" inbound. Failure to meet this deadline does not have any effect on the safety of the procedure; the aircraft in question simply proceeds in late and the entire operation for all aircraft is simply backed up in time.

Continuing with the technique the following is a representative succession of contacts applying to LaGuardia Field: At the time fixed by the fine red line the controller directs: "Home on the outer marker from your present position, maintain assigned altitude. Begin a procedure turn at the outer marker."

Pilot: "Roger."

On arrival over the outer marker the pilot reports: "Over the outer marker beginning a procedure turn."

The controller notes the time of report and aligns the computer's slide hairline

serves two purposes: (1) all three controllers are assured of using the same effective wind in determining time and heading for the outbound leg of the procedure turn and also, if a delay occurs in the pattern, the drums of all three computers are set back by the same amount thus assuring positive constant spacing of the entire pattern.

In a brief statement after the tests, Capt. Saint said that the essential fact which makes this system effective is that while it is necessary to keep airplanes ten minutes apart laterally to provide safe separation, it is only necessary to keep airplanes two minutes apart vertically (1,000 feet or two minutes at 500 feet per minute).

Vital Regulator on B-29 Perfected by AiResearch

AiResearch Manufacturing Co., Los Angeles, has been permitted to disclose that its engineering staff perfected the cabin pressure regulator of the B-29 Superfortress, which makes possible the long-range, high altitude operation of the heavy bomber.

The cabin pressure regulator has been tested in testing chambers designed to simulate atmospheric conditions up to 65,000 feet. It enables B-29 crewmen to operate the aircraft at these extreme altitudes in comparative comfort and without bulky oxygen equipment.

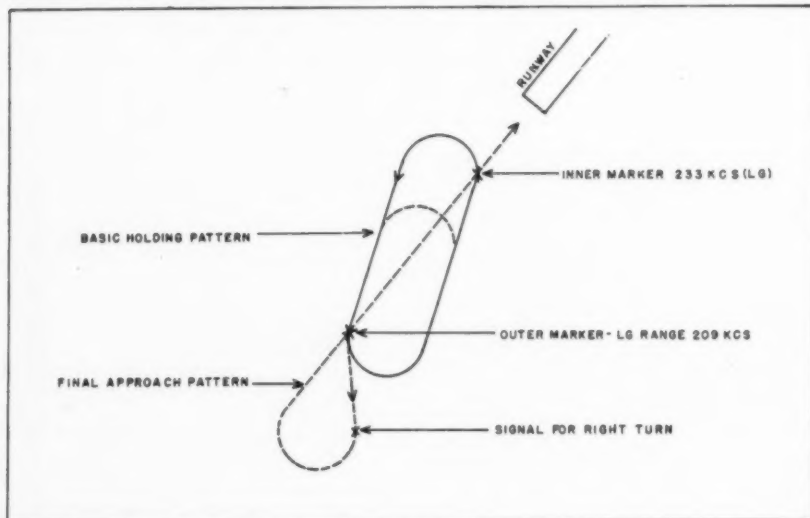
The company also developed the supercharging intercooling and oil cooling systems necessary for B-29 performance. The cooling system works on the principal of an auto radiator, incorporating an actuator system. The intercooler system, designed to cool the air compressed in the plane's supercharger, is a modification of a similar device installed on the B-17.

Calcium Plays Big Role In Aircraft Manufacture

Calcium deserves a substantial share of the credit for America's great fleet of warplanes, it is claimed in an article by Sydney B. Self in a recent issue of the *Wall Street Journal*.

"One of the factors that causes steel to become 'fatigued' and break or deteriorate under strain is the minute amounts of impurities left in the metal by the normal steel-making process," writes Self. "But steel used in aircraft must be the strongest and purest possible. So a bar of calcium (costing \$1.25 a pound) is put into a batch of steel and it immediately reacts with and eliminates or 'ties up' all free oxygen or other impurities. Because it becomes a gas at the temperature of a steel furnace, calcium also has a leavening or stirring effect, bringing all the foreign matter to the slag at the top of the batch of molten steel."

CONSOLIDATED VULTEE AIRCRAFT CORP. delivered 29.5% of all heavy bombers produced in the United States for Allied military needs during the six months' period ending June 30, Harry Woodhead, president, announces. On the basis of individual company comparisons, Convair heavy bomber deliveries exceeded those of the second largest producer 23% and those of the third by 43%. This output was in addition to dive bombers, Navy patrol bombers, transports, trainers, and liaison planes manufactured by the company, Woodhead said.



This approach control pattern graphically pictures the airplane flight path during holding and final approach procedures as described in the accompanying story.

facturer plans to pursue the development of an automatic device to do the same job.

The computer's function is to determine the heading to be taken by the approaching aircraft on the outbound leg of the procedure turn and the length of time this heading should be flown to bring the aircraft over the outer marker on the inbound leg just three minutes behind the preceding flight.

The controller on the ground operating the computer knows the time at which a flight should be over the outer marker inbound in order to preserve the pattern of traffic flow and also has available the effective wind velocity on the mean heading for the outbound leg of the procedure turn. These two known values are inserted in the computer on the endless time tape at the top and the rotating drum below it. With the computer so set, a fine red line scribed around the drum shows the time at which the controller must direct the aircraft at 2,000 feet to home on the outer marker and begin his procedure turn and descent to 1,200.

with this time on the tape; from the scales on the rotating drum he obtains the time to be flown on the outbound leg of the turn and from the heading card below, he picks off the heading to be flown reporting, for example: "Roger, fly 185° to the 'V' signal. Descend to 1,200 feet; report vacating 2,000 feet."

Pilot: "Descending to 1,200 feet, vacating 2,000."

At the end of the outbound leg flying time as established by the computer, a keyed letter "V" is transmitted from the control station irrespective of any other contacts in progress and the pilot concerned begins his turn back on final approach.

At some point just prior to passing the outer marker inbound, the flight will be cleared to land and will report vacating 1,200 feet. The following flight can then be brought from 2,000 feet to 1,200.

Each computer will handle one aircraft and during the tests, three of the units were coupled in series. This coupling is accomplished by joining the shafts of the three rotating drums. This intercon-

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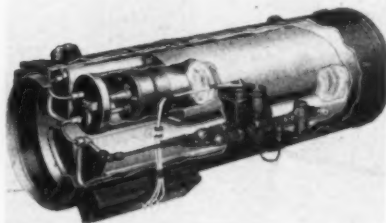
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Equipment News

Aircraft Heater

The new series SRH aircraft heaters developed by Fluid Heat Division, Anchor Post Fence Co., Baltimore 24, Md., embody a new combustion process known as vapor entraining, which uses a capillary vaporizing block in conjunction with pre-heated combustion air. To avoid lead oxide formations and prolong life of burner parts the flame is completely suspended. An unusually low pressure drop permits efficient operation at low ram pressures. The flame is said to be so stable that its characteristics are the same regardless of the plane's altitude or speed, and barometric compensation permits operation up to 40,000 feet. Another feature of the SRH series is the use of multiple heat exchanger compartments giving the



flame and hot gases a travel of four times the length of the exchanger. Capacities available are 100,000 and 50,000 BTU/Hr. Complete with all controls and accessories the former weighs 24½ lbs., the latter 16 lbs. 6 oz. Dimensions are 28 x 9 ins. and 27 x 7 ins. respectively. Blowers can be supplied for ground operation.

Portable Testing Unit

All wiring and electrical troubles on 75% of American aircraft can be analyzed and located by a compact light-weight portable testing unit developed and manufactured by the United Hydraulic Mfg. Co., Los Angeles. It can also be used for checking open circuits, short circuits and measuring resistance of any circuit element. A tee adapter is inserted in the circuit to be tested and the selector switch on the unit is turned to that specific circuit and the test can be completely made. Aircraft plants have made demonstrations with the "Umco" and report savings in time required for testing up to seventy-five percent. It is especially advantageous for testing and adjusting voltage regulators and reverse current relays. The unit complete with all accessories weighs approximately 25 lbs.

Bullet Sealing Hose Fittings

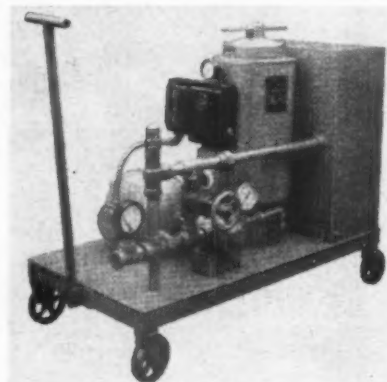
Bullet-sealing hose fittings, similar to Aeroquip Standard Hose Fittings now in use on all Army and Navy combat airplanes, are



being produced by the Aeroquip Corp., Jackson, Mich. The swivel type fitting consists of but three pieces (hose retaining socket, nipple, nut) each of which is individually replaceable. Assembly is accomplished by simply screwing nipple into socket. Once assembled, there is no need for further tightening and servicing. The fitting can be reused repeatedly with new hose. As can be seen from the photograph, the dimensions of the fitting are small and are kept within approximate dimension of the hose.

Filter and Sprayer

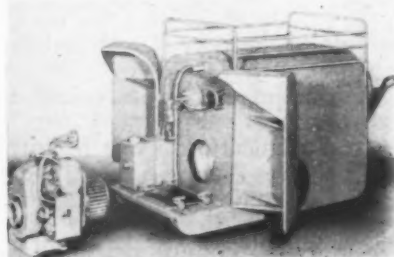
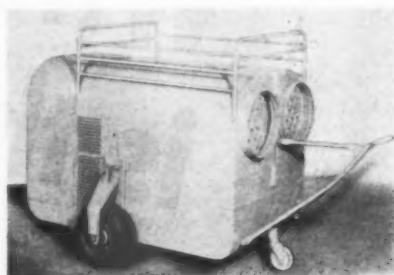
This unit is used for spraying rust and corrosive preventives on metal surfaces including internal mechanism of aircraft en-



gines when preparing them for storage and shipping. The Hilco unit consists of a tank into which the liquid rust and corrosion inhibitor is placed, a filter equipped with heaters for warming the fluid to insure free flowing and at the same time filtering it. A high pressure motor driven pump draws the fluid through the filter and delivers it through a length of hose (not shown) at the end of which there is attached a spray nozzle.

Pre-Flight Heater

Harvey-Whipple aircraft pre-flight heater is shown (top) with all three wheels in down position. They are instantly retractable, as is handle at right. Note sled runners on bottom and duct rack on top. Output is 300,000 B.T.U. per hour. Designed to give extreme



reliability even at 60 degrees below zero. In lower photo the unit is shown with wheels retracted, sitting on sled runners. In emergencies, entire power unit may be removed by one man in 30 seconds, without wrenches, and a new unit installed in less than two minutes, also without wrenches. Quickly detachable multiple fuel line joint is shown.

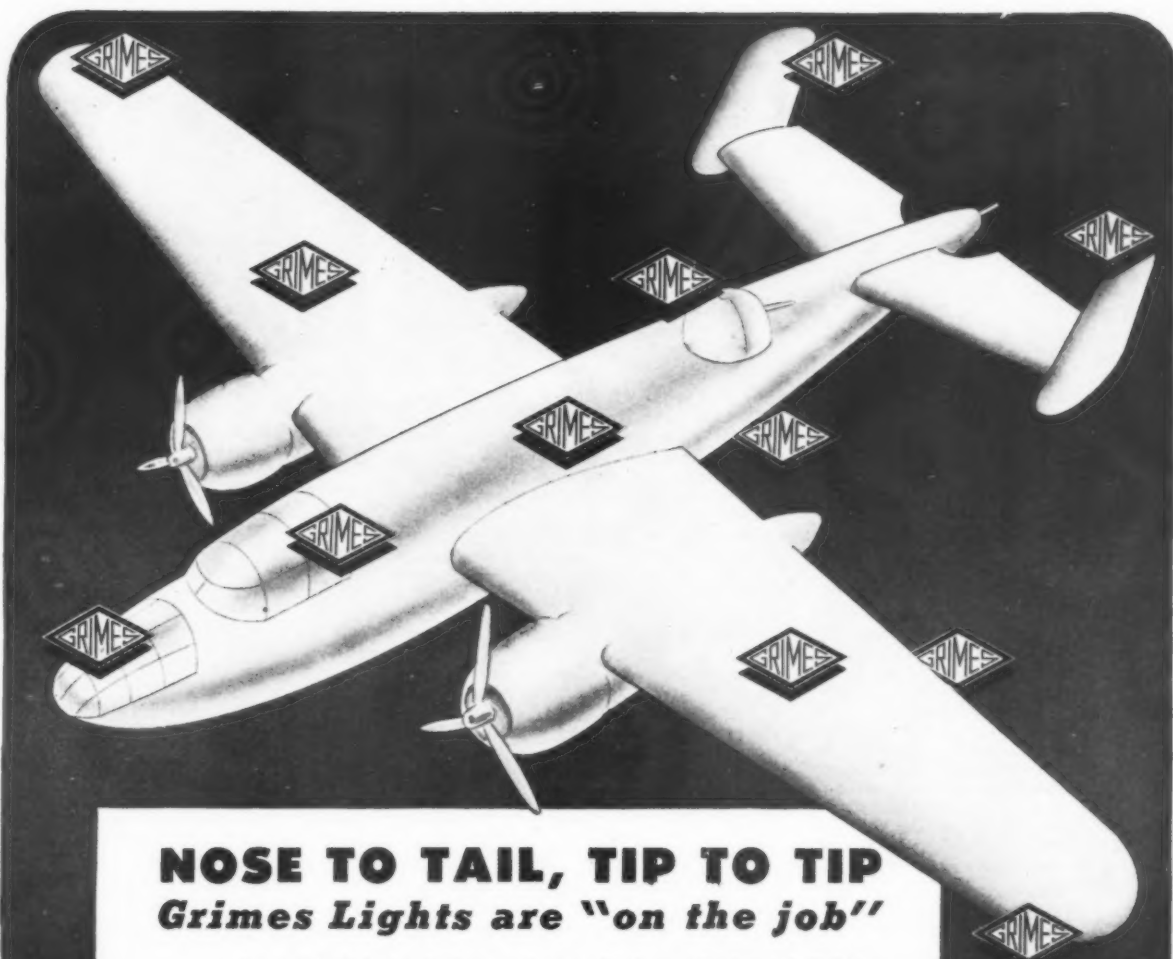
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V-Day Cutback Program Won't Affect Some Types

Superbombers, Jet Planes and Cargo Craft to be Rushed

By W. L. RUSSELL

THE DEFEAT of Germany will bring a pronounced reduction in aircraft manufacture, but it will not be a 50 percent cutback and it will not be a straight across-the-board slash, the industry is certain.

Conferences between leaders in aircraft manufacturing and the Army apparently have worked out a satisfactory formula for the shuffling of production schedules. Output plans for Naval aircraft are not so closely affected because the war in the Pacific will be a vast-scale sea war.

Production of planes after V-day comes, in Europe will be reduced roughly 35 percent, according to the best estimates. Five thousand planes will be produced a month to defeat the Japanese.

Several plane schedules will not be affected at all. There is expected to be no reduction in the Navy's dive bomber and fighter production schedules, nor in the output of the B-29 and B-32 superbombers. Jet schedules will continue unchanged, and so will the manufacture of P-63s which are in great demand by Russia. The Soviets have given no indication that their orders for the P63s will be curtailed.

Cargo Planes Needed

Another factor appears encouraging. This is the plan to continue the production schedules of cargo planes as the war in the Pacific will be one of ever-increasing distances and the supply problem will be paramount.

High production schedules of superbombers—evidenced by the output of 4500 of these aircraft in June, July and August—have paid dividends in Europe and are expected to continue doing so in the Pacific, the WPB announced in revealing figures on bomber production for August.

The WPB report listed 15,000 heavy bombers made during the last 12 months. A total of 7939 planes of all types were made in August, 3.5 percent below the revised schedule of 8228 planes. Modified September schedules call for 7934 planes.

The rapid increase in the rate of heavy bomber production is all the more remarkable when it is appreciated that the size of the "heavy four-engine bomber" was constantly increasing from 1941 to the present, WPB officials said. At present production of Superfortresses constitute an ever increasing proportion of aircraft output. It is expected that there will be a decrease in the number of heavy bombers made, as a result of reduction of certain models previously announced, coupled with the increasing predominance of the B-29 and B-32 Superbombers in the program.

The shock of the cutbacks on V-day will be lessened by the fact that the program calls for the transfer of many

contracts for work on the superbombers to plants whose production schedules are most reduced. Thus, the reductions will be scattered, avoiding rush prosperity in some places and unemployment in other areas.

The impact of the cutback will be further lightened by a plan enabling plants to keep running with present labor forces through the inauguration of five-day weeks, shorter hours and similar devices.

DPC to Sell Plants

With a close eye on conversion, the Defense Plant Corp. is polling industrialists operating 586 DPC-owned war plants to determine whether the operators plan to acquire the property for postwar civilian production.

Secretary of Commerce Jesse Jones during the fortnight sent telegrams to the operators of the plants which were built by the DPC at a cost of almost five billion dollars. They may be acquired by those running them through option or negotiation.

Meanwhile, War Mobilization Director James F. Byrnes announced the personnel of his new War Plant Utilization Committee which is charged with formulating a coordinated program to utilize Government-owned war plants as they become no longer necessary to the war effort.

Chairman of the new committee is Mason Britton, assistant surplus war property administrator; J. A. Krug, acting chairman of the War Production Board; Sam H. Husbands, president of the DPC; and Charles M. Hay, deputy director of the War Manpower Commission.

Cheering to the industry during the fortnight was the announcement of Krug that aircraft plants after V-day can swing into work on civilian commercial or private aircraft providing it does not interfere with military orders.



Light Aplenty—The engineering department of Curtiss-Wright Corporation's new Louisville plant is in one of the world's best lighted rooms. Daylight streams in from many windows, while batteries of fluorescent lights reflect "sunshine" from above. The Louisville plant is one of the first designed exclusively for the building of cargo planes.

United Aircraft Promotes L. S. Hobbs, W. A. Parkins



Parkins

Hobbs

Leonard S. Hobbs has been elected vice president for engineering of United Aircraft Corp., and has been appointed a member of the company's operating and policy committee, Frederick B. Rentschler, chairman of the board, announces.

In his new position, Hobbs will coordinate the engineering programs of the several divisions of the corporation. He will also continue general direction of certain special power plant developments, with A. V. D. Willgoos, chief engineer, Pratt & Whitney Aircraft Division, specializing in the power plant developments. Activities of United Aircraft's research division will also come under Hobbs' general supervision.

Rentschler at the same time announced the appointment of Wright A. Parkins as engineering manager of the Pratt & Whitney Aircraft Division. A native of North Dakota, Parkins joined the Pratt & Whitney engineering staff in 1928. He is a graduate engineer of the University of Washington, and a veteran of the first world war. He was appointed assistant chief engineer in 1938.

Hobbs joined Pratt & Whitney as a research engineer in 1937, after serving as a test engineer in the power plant branch at McCook Field, Dayton, O. He was named engineering manager of Pratt & Whitney in 1935, and elected a director of United Aircraft in 1942.

Kaiser Buys Hiller Patents

Patents on the Hiller Copter, invented by Stanley Hiller, 19, of Berkeley, Cal., have been bought by Henry J. Kaiser, who has employed the inventor to further develop the helicopter. The contracts were handled by Kaiser Cargoes, Inc., through which Kaiser builds Fleetwing planes and is associated with Howard Hughes is developing cargo planes. The Hiller Copter is based on the principle of counter rotors which eliminate a tail rotor.

Greyhound Order to Convair

The Greyhound Corp., has placed orders for new type busses with Consolidated Vultee Aircraft Corp., incorporating the use of air-cooled engines and certain other details of airplane construction developed during the war. O. S. Caesar, vice president of Greyhound, said it would be the first attempt to adapt air-cooled aviation engines to highway transportation. Granted the necessary priorities, Greyhound hopes for delivery of the busses next year.

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... aided behind a cooling screen of inert carbon dioxide, Cardox Airport Fire Trucks drive right up to the fire... enabling rescue squads to enter the plane within seconds after the truck arrives.

• When an airplane crashes and burns, flames fed by highly volatile aviation gasoline sweep with appalling suddenness over the ship and trapped personnel.

Cardox Airport Fire Trucks now on the job at major airfields throughout the U. S., are engineered for the one specific job of quick extinguishment of even very large aviation crash fires... so that plane personnel may be rescued and costly equipment salvaged. Backed by the tremendous extinguishing capacity of 3 tons of zero-cold carbon dioxide, the Cardox Airport Fire Truck "blitzes" fire with a mass discharge of inert vapor and CO₂ snow (dry ice at 110°F.). If necessary, the entire 3 tons can be discharged in a cooling, smothering blanket in approximately 1 minute!

Carbon dioxide, one of the fastest of all extinguishing mediums, is given enhanced fire extinguishing performance through Cardox control and engineered

application. Discharged at an extremely high rate into the heart of the blazing inferno, it knocks down heat and flame so quickly that usually within seconds after extinguishment is begun rescue squads can enter the plane.

Extinguishing characteristics of Cardox CO₂ are uniform, regardless of atmospheric temperature... assure peak performance under all weather conditions. Cooling effect, effective projection and "reach" are augmented, even in strong winds, because of the higher yield of comparatively heavy CO₂ snow,

characteristic of the Cardox discharge.

Write for Bulletin 2794, and Free reprint of address "Fighting Airplane Crash Fires" by B. M. Doolin, as Manager of the San Francisco Municipal Airport at the 47th Annual N.F.P.A. Convention.

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CO₂ FIRE EXTINGUISHING SYSTEMS

North American Wants Income Tax Credit in Exchange for Surpluses

Plan Being Studied
By Treasury Dept.;
Approved by Clayton

GOVERNMENT OFFICIALS have under consideration a plan whereby war industries may be able to sell their surplus war inventories to the Reconstruction Finance Corp. for \$1 and receive credit for the value of these inventories in corresponding reductions in Federal Income Taxes.

The plan was suggested to the War Department by North American Aviation, and was in turn referred to the Surplus War Property Administration. Should the plan find general favor and acceptance, it might set the pattern for disposal of war surpluses not only in the aviation industry but throughout the entire field of war production.

W. S. Clayton, head of SWPA, indicated that his office had given the plan favorable consideration and probably would recommend its adoption to RFC. Many conferences necessarily will have to be held between the various government departments involved and there is the further consideration of the effect of pending legislation in Congress affecting the disposal of surplus property.

Treasury department officials also are understood to have given careful consideration to the plan and they have not publicly voiced objection to absorbing the revenues losses which would result from the reduced inventory.

North American is understood to have some \$10,000,000 in surplus stocks, which have accumulated in inventories as a result of cutbacks. If the company is able

to dispose of its inventories under this plan, it would facilitate plans for conversion to peacetime production.

Some of the government officials who have studied the plan informally see in it a possibility of offering a method of preventing the dumping of great quantities of surplus war materials, and the possible demoralization of markets in the postwar period.

Chamber Appoints J. K. Boyle Director Of Readjustment

The Aeronautical Chamber of Commerce has appointed as director of its readjustment services John K. Boyle, former executive advisor to the vice president and general manager of Lockheed Aircraft Corp. and chairman of that company's contract termination committee.

Boyle will supervise the preparation of analyses, reports, and recommendations on contract termination, renegotiation, surplus disposal, market development and related industry problems. In addition he will direct the industry coordination and Government liaison with respect to these matters.

He is known in the industry for his work at Lockheed as cost-plus-fixed-fee coordinator and as chairman of the joint contract termination committee for the West Coast aircraft manufacturers.



Story Hour—In a novel Douglas Aircraft Co. lunch period program of inviting AAF heroes to visit employees on the job, Sgt. Paul A. Simmons, Fortress rear gunner, is shown in a B-17 fuselage relating his adventures to Long Beach plant workers.

C-W Researcher Sees Decline in Postwar Air Passenger Rates

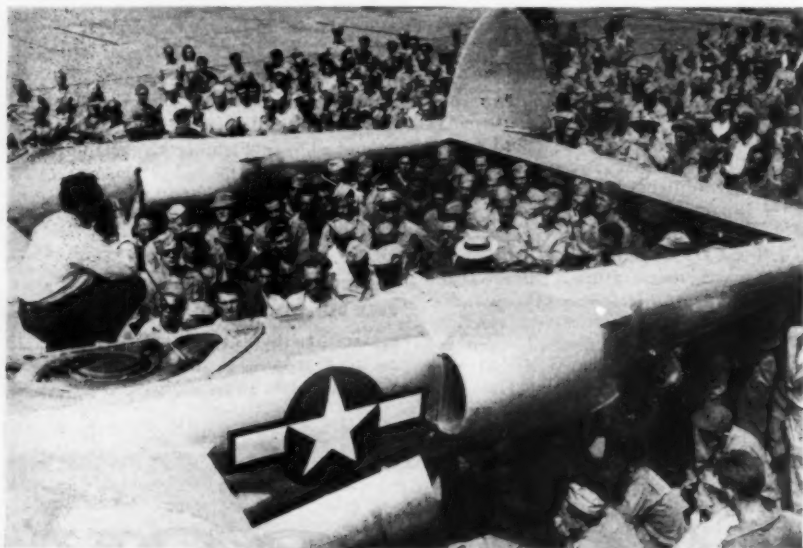
A decline in postwar passenger rates from the prewar average of 5.1 cents a mile to 3.5 cents a mile, and express rates from prewar 80 cents a ton-mile to 30 cents a ton-mile within five years after the war is forecast by Dr. D. H. Davenport, director of business research of Curtiss-Wright Corp., Airplane Division.

Dr. Davenport's findings, which are summarized in a study, "Air Transportation in the Immediate Postwar Future," also forecast numerous improvements in air service, a tremendous increase in air travel and better equipment. He said flight cancellations should be virtually negligible and "almost 100% schedule performance may be expected."

Domestic air travel five years after the war should approximate seven times that of 1940, he said—700 million passenger miles, compared with 104 million. Express is expected to show even greater increases—from 3.5 million ton miles in 1940 to 110 millions five years after the war, while mail is estimated at 87 million ton-miles, compared with 10 million in 1940.

Dr. Davenport estimated that 1,500 planes would be sufficient, five years after the war, to meet the requirements of U.S. air carriers operating domestically and internationally. Increased size of planes, increased performance due to greater speeds, greater load factors and higher utilization will tend to keep down the number of planes required to handle the estimated increase in traffic.

Curtiss-Wright plans to be an active producer for the commercial airplane market as well as for the military after the war, he said, with the C-46 Commando receiving the bulk of the company's attention. The plane is suited for postwar operations, he continued, since it can accommodate from 36 to 44 passengers and will fit into the comparatively short-haul pattern forecast for development after the war.



Question-Answer Session—Lightning P-38 cadet pilots are shown gathered around Milo Burcham, Lockheed's chief pilot, at an Army flying school. Burcham has found that many questions can best be answered by flying his Lightning for the trainees, so the question-and-answer sessions are interspersed with flight demonstrations.

At every stage...from the scrap  to

the open hearths  and hot mills

and fabricating,  keen-

eyed inspectors  check ✓ and

double ✓✓ Roebling Control Cable. That's

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Manufacturing Personnel



McGrath



Tinkham



Mara



Mattoon



Gibson



Tarter

Carl A. Cover, formerly executive vice president of Douglas Aircraft Co., has been appointed manager of Bell Aircraft Corporation's Georgia Division, succeeding **Omer L. Woodson**, who recently resigned after five years with Bell.

E. K. Hubbard, II, has been named surplus materials officer for Pratt and Whitney Aircraft Division, United Aircraft Corp., having been relieved of his duties as manager of spare parts sales.

David J. Bonawit, formerly executive engineer of the Manhattan Division, Raybestos-Manhattan Corp., has been appointed chief engineer of Marshall-Eclipse Division, Bendix Aviation Corp.

W. A. Schiller is the new assistant factory superintendent of the Fort Worth Division, Consolidated Vultee Aircraft Corp.

Thomas Bartlett, who has been associated with Curtiss-Wright Corp. since 1928, has joined the staff of Lawrence Aeronautical Corp. as operations manager.

Garrard Mountjoy, head of the licensee consulting section of the Industry Service Division, RCA Laboratories, has been appointed head of the Lear, Inc., Radio Laboratories.

Dr. John B. Crane, chief of the transportation unit of the Bureau of Foreign and Domestic Commerce, Department of Commerce, has joined the Glenn L. Martin Co. as director of economic and marketing research.

E. J. Lyons, assistant to J. P. Davey, general manager of the Columbus Airplane Division, Curtiss-Wright Corp., has been appointed director of industrial relations for the C-W Airplane Division.

Raymond J. Cowden has been appointed



Hufferd



Wright



Tasker



McMann



Church



Hollowell

general contract manager of American Propeller Corp. with complete charge of contracts and service for American propeller blades throughout the U. S. and in foreign countries.

G. W. Simonds, plant suggestion coordinator for all Douglas Aircraft Co. factories, has retired after 22 years of service. Ill health was given as the reason for his retirement.

Richard E. Posthauer has been named manager of military contracts and service of the Lycoming Division, Aviation Corp. He was formerly associated with Consolidated Vultee Aircraft Corp. and United Aircraft Corp.

Renville H. McMann, procurement control manager of Republic Aviation Corp., has been loaned by his company to the Aircraft War Production Council (East Coast) to serve as a coordinator between the Army Air Forces and aircraft contractors in dealing with the problem of handling surplus materials.

Richard H. Depew, Jr., special projects manager for Fairchild Aircraft Division, recently celebrated the 33rd anniversary of his first solo flight by taking a pleasure flight with his 13-year-old son in an F-24.

Dee H. Hollowell has been elected a vice president and has been placed in charge of sales and service for the Aircraft Division, Continental Motors Corp.

Henry G. Tarter has been appointed chief engineer of the aircraft carburetor engineering department of Bendix Products Division, Bendix Aviation Corp.

Harry R. Gillett has been named executive vice president of the Harvill Corp. **Francis Petit** has been elected secretary, and **A. J. Hanlon** production manager.

George H. Hufferd has been named

(Turn to page 76)



Simonds



Bartlett



Woodson



Mountjoy



Cover



Lyons



Skill goes into every step of the controlled production of Belden wire and into the frequent inspections which maintain uniformly high quality.

Skill makes the SB2C Curtiss Helldiver, dive bomber built by Curtiss-Wright, a powerful instrument of attack.



Photos courtesy of the Curtiss-Wright Corporation

IT'S SKILL THAT WINS AERIAL BATTLES

- at plane controls
- on production lines
- in suppliers' factories



Skill goes into the wiring of this intricate control panel, and into the careful examination the finished assembly receives.

Skill is a necessity in the production and use of today's complex war equipment. From the manufacturer and his suppliers of parts and materials to the pilot under fire, many skilled craftsmen play a part in providing such weapons as the SB2C Curtiss Helldiver with their swift, deadly efficiency.

Belden wire, a vital type of supply in electro-mechanical warfare, goes to war in bombers, fighter planes, and hundreds of other types of essential equipment. Long years of experimenting, testing, and cooperation with aircraft engineers have built into Belden aircraft wires the plus values required to meet today's rigid standards. Service-tested materials and highly skilled workmanship have given Belden products the quality which spells long life in strenuous use—specify Belden.



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for initiating the War Bond-
or-Cash Dividend Plan

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Starter, Lighting, and Instrument Cables ✓ ✓ ✓ SPARK PLUG WIRES

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for finest
PERformance

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CABLES AND
ASSEMBLIES

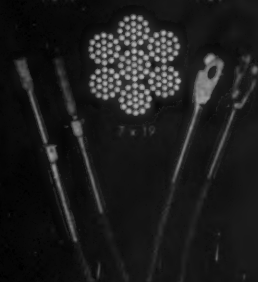
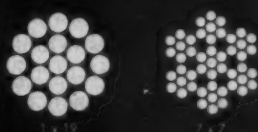
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"Safe-Lock" Terminals
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... custom-built for your work. Both standard wire rope and braided slings.

Tie-Rods
... for internal and external bracing. Streamline, square, round.

"Hi-Fatigue" Cables
in these constructions



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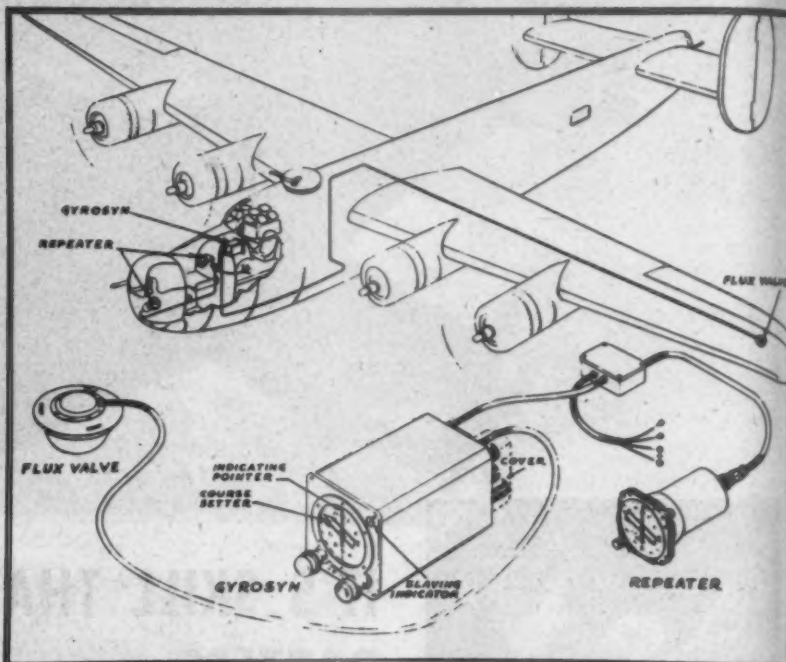
Manufacturers of MACWHYTE
"Hi-Fatigue" Aircraft Cables—"Safe-Lock" Cable Terminals—Aircraft Tie-Rods—Braided Wire Rope Slings—and Wire Rope for all requirements.

'Gyrosyn' Compass Developed by Sperry

The Gyrosyn compass, a new flight instrument incorporating a directional gyro synchronized with the magnetic field of the earth thus making for greater accuracy in navigation, has been developed by the Sperry Gyroscope Co.

The new compass is an electrically

The Gyrosyn compass is installed on the pilot's instrument panel or at the navigator's station. Up to six repeaters for remote indications may be used with it. Provision is also made for furnishing azimuth stabilization as required by any other equipment.



driven directional gyro precisely controlled by a flux valve, the latter being described as a "stand in" for a magnetic compass since it detects the direction of the earth's magnetic field. The flux valve is small, hermetically sealed with no rotating parts and can be mounted in a wing tip safely removed from the disturbing influences of the cockpit.

Duties of the pilot are lightened by use of the Gyrosyn compass since it allows for deadbeat indication and accurate magnetic headings without northerly turning error or the necessity of resetting. In military aircraft it avoids the usual disturbances in the earth's magnetic field due to proximity of electrical apparatus and armor plate.

Aircraft



Computers



Hydrometer Kit

Takes the guesswork out of fuel-weight computation. The weight of gasoline, per gallon, varies with temperature and octane rating. This kit accurately measures the weight of the fuel actually being loaded and permits maximum and correctly distributed fuel load.

COX AND STEVENS AIRCRAFT CORPORATION

P. O. Box 30

Mineola, N.Y.

Western Electric radio helps to speed the "Cannonball"



HATS off to Pan American flight crews and Army ground crews who operate the famous A.T.C. "Cannonball" express! Speeding across two oceans—touching four continents—flying to India and back in seven days—"Cannonball" service thunders on, day and night in all kinds of weather.

Such 'round the clock and 'round the world schedules would be impossible without dependable communications. On this route—as on other globe-girdling PAA routes—a chain of Western Electric fixed station radio transmitters helps to speed vital supplies to far places in record time.

Keep on buying War Bonds—and keep all you buy!



75TH ANNIVERSARY
Western Electric
ARSENAL OF COMMUNICATIONS EQUIPMENT





BEACON

to New Industry in the West

Out of the earth in the West today comes over 80 per cent of the nation's non-ferrous metals: aluminum, magnesium, manganese, chromium, tin, mercury, tungsten, antimony, uranium, and many others... that are fighting the war now... and building the new post-war industrial empire of the West.

Add to these raw ores the cheap hydro-electric power of such dams as Grand Coulee, Boulder and Shasta; the plentiful supply of labor due to the natural attractions of the West as a place to live and work... and you have the primary ingredients for the new industries which will be added to the West's agriculture, lumber, oil and fishing.

This new industrial development of the broad West demands fast transportation... which means *air* transportation. Western Air Lines, owned and operated by Westerners since its inception in 1926, is alert to its responsibilities as the "West's own airline," to provide the finest service as fast as war conditions permit.

GENERAL OFFICES: 510 W. SIXTH STREET, LOS ANGELES 14, CALIFORNIA



Manufacturing Personnel

(Continued from page 72)

vice president-engineering of the Weatherhead Co. H. B. Church has become vice president-sales, and Robert P. Gibson, vice president-automotive sales. Morris H. Wright is the new assistant to the president of Weatherhead.

Russell F. Jacques, of the engineering staff of Laister-Kauffman Aircraft Corp., has been elected a director of the Plains Division, Society of Aeronautical Weight Engineers.

Carl H. Odell has been named assistant manager of the instrument division of Thomas A. Edison, Inc. He was formerly an executive in the direction finder division of Federal Telephone and Radio Corp., and previous to that was manager of the electronics plant of Sperry Gyroscope Corp.

J. Don Jordan has joined the executive staff of Jordanoff Aviation Corp. He was formerly with Sherman and Associates as a specialist in design and engineering.

T. W. Tinkham has been appointed general manager of the Eclipse Machine Division of Bendix Aviation Corp. He succeeds William L. McGrath, who is retiring after 26 years of service.

C. M. Van Epps has been named sales manager of the Goodyear Aircraft Corp. of Arizona. He joined the aircraft plant early in 1942 as a member of the sales division, and handled Navy contracts out of Washington, D. C., and Akron, O., until his recent promotion.

William A. Mara has been appointed private sales director for Consolidated Vultee Aircraft Corp., with headquarters at the Stinson Division, Wayne, Mich. He will have charge of Convair's light plane sales program. Rudy Koch has been appointed works manager of Convair's Louisville division. He replaces K. F. Leaman, who is being transferred to the company's New Orleans division as works manager.

Charles S. Mattoon has resigned as director of industrial relations of Curtiss-Wright's Airplane Division, Buffalo, to accept a temporary position in Washington as industry member of the National Airframe Panel of WLB.

One-Thousandth CG-4A

Towed from Waco Plant

Completion of the 1,000th CG-4A troop-cargo carrying glider at the Troy, O., plant of Waco Aircraft Co., set off a two-hour celebration at the plant Aug. 29.

Lt. Col. Leslie S. Gordon of the Materiel Command's central procurement district, Detroit, and C. J. Brukner, Waco president, were among the speakers.

The 1,000th glider was towed away from the Waco field by pick-up from a tow-plane as a part of the celebration program. Waco has been making the 10-passenger CG-4A glider since April, 1940. The carrier has a wingspread of 83 feet 8 inches, and an overall length of 48 feet 3 3/4 inches, and weighs more than 8,000 pounds.

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The outstanding performance of Logan Lathes in sustained accuracy and speed results from the exacting care that goes into every detail of construction. In the final inspection, a point-by-point check of the entire machine assures a completed assembly ready for production service. Of equal importance, all individual parts and all sub-assemblies are thoroughly tested as they are manufactured to prevent incorporation in the machine of any part not

up to standard. The rigorous checking of parts, sub-assemblies, and the final inspection, strictly control the consistent accuracy and quality characteristics of Logan Lathes. Ask your nearby Logan Lathe dealer, or write for latest catalog describing all models of Logan Lathes.



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A NAME TO REMEMBER WHEN YOU THINK OF LATHES



"SINGLE-
RELEASE"
Harness

UNITED NATIONS' FLYERS are using it for SAFER LANDINGS

A one-hand turn and a tap on the single frontal disk instantly releases the harness . . . leaving the flyer entirely free. Accidental release is impossible before disk is "set" for action.

All United Nations' Air Forces for years have used IRVIN as standard equipment . . . and now the Irvin "Single-Release" harness is acknowledged as superior for all landings. IRVIN, as always, leads in Safety.



Twist and Set Tap for Release Harness Falls Off

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BUY MORE WAR BONDS

Over-the-Counter Securities

(Courtesy Merrill Lynch, Pierce, Fenner and Beane)

	Sept. 1		Sept. 8	
	Bid	Asked	Bid	Asked
AIRLINES				
All Amer. Av.	6	6 1/4	6	6 1/4
Amer. Airlines Pfd.	121 1/2	....	120	121 1/2
Amer. Export Airl.	32 1/2	34 1/2	31	32
Braniff	Listed	21 1/2	Listed	21 1/2
Chgo. & So. com.	14	14 1/2	13 3/4	14 1/2
Chgo. & So. Wts.	6 1/4	....	6 1/4	....
Continental Airl.	10	10 3/4	9 1/2	10 1/2
Delta Airl.	26	....	25 1/2	....
Inland Airl.	3 3/4	4 3/4	4	4 3/4
Mid-Continent	7 3/4	7 3/4	7 1/4	7 3/4
National	14 1/2	14 3/4	14 1/4	14 3/4
Northeast Airl.	Curb 11 1/2	....	Curb 10 1/2	....
MANUFACTURERS				
Aeronca	4 1/2	4 3/4	3 3/4	4 1/2
Air Assoc.	Curb 9 1/4	9 3/4	9	Last Sale
Aircraft & Diesel	1 1/4	1 3/4	1 1/4	1 3/4
Aircraft Acces.	Curb 5 1/2	Last Sale	Curb 5	Last Sale
Airplane & Marine	3 3/4	....	3 1/2	....
Airplane Mfg. & Sup.	65c	75c	65c	75c
Central Airports	75c	1	75c	1
Columbia Aircraft	1 1/2	3 1/2	1 1/2	3 1/2
Continental Av.	3 1/2	3 1/2	3 3/4	3 1/2
Delaware Aircraft Pfd.	1 1/2	1 1/2	1 1/2	1 1/2
General Aviation Equip.	3 1/2	1 1/2	3 1/2	1 1/2
Globe Aircraft	1 1/2	1 Nominal	1 1/2	1 Nominal
Harlow Aircraft	20c	35c	20c	35c
Harvill Corp. Pfd. ....	....	Called	....	Called
Harvill Corp. com.	1 1/2	1 3/4	1 1/2	1 3/4
Interstate Airc. & Eng.	8 1/4	8 3/4	7 1/2	8 1/4
Jacobs Aircraft	Curb 4 1/4	....	Curb 3 3/4	....
Kellett Aircraft	1 1/4	2 1/4	1 1/4	2 1/4
Kinner Motors	70c	75c	70c	75c
Liberty Aircraft	21 1/2	21 1/2	19	19 1/2
Luscombe	1 1/2	1 1/2	1 1/2	1 1/2
Menasco Mfg.	1 1/2	1	1 1/2	1 1/2
Northrop Aircraft	5	5 1/2	5	5 1/2
Piper Aircraft com.	2 1/4	2 1/4	2 1/4	2 1/4
Piper Aircraft Pfd.	27	29	26 1/2	28 1/2
Pitts. Aviation Ind.	1 1/2	....	1 1/2	....
Rohr Aircraft	5 1/4	6 1/4	6 1/4	7 1/4
Std. Aircraft Prod.	65c	80c	60c	80c
Taylorcraft Com.	2 1/2	2 1/2	2 1/4	2 1/2
Taylorcraft Pfd.	5 1/4	6 1/4	5 1/4	6 1/4
Timm	35c	42c	35c	42c
Utd. Airc. Prod. Pfd.	16	16 1/2	15 1/2	16 1/2

WAL Reports \$43,233 Net for 6 Months

Western Air Lines has reported a net profit of \$43,233 for the six months ended June 30, after provision of \$25,224 for estimated Federal taxes, equivalent to approximately 10 cents a share on the 409,954 shares outstanding. This compared with a net profit of \$71,766 reported for the first six months of 1943.

Passenger revenues for Western's system increased 57% in the first six months of 1944 over the same period in 1943. William A. Coulter, president, said. The gain was offset by increases in operating costs, and increases in the amount of operating expenses allocated to the company's commercial operations and a corresponding decrease in the amount of costs assigned to military operations.

Coulter said the company's ATC cargo contract from San Francisco to Seattle was terminated June 25, but that the cargo route to Alaska, inaugurated two years ago, was still being operated by Western.

The statement does not reflect any of the operations of Inland Airlines, Inc., recently acquired by Western.

HERE'S THE POSTWAR PLANE

YOU ORDERED

Thousands of aviation-minded men and women responded to our invitation to tell us what they want in their postwar plane. Here's their answer.



...and the engine

65% want one engine (as compared with 33% two-engine fans) of the following specifications:



Air-cooled, horizontally-opposed 57%; Liquid-cooled 6%; Air-cooled in line 21%; Radial 12%; Geared 27%; Direct 38%.

Cylinders: Four 14%; Six 32%; Seven 3%; Eight 6%; Nine 2%; Twelve 2%.

Horsepower: Less than 100, 28%; 100-150, 42%; over 150, 29%.

Both in specification and price, the Franklin engine is the preferred power plant for the postwar plane you want.

People are seriously thinking about postwar flying. That is proved by the fact that our "postwar plane questionnaire" drew replies from one out of every four who received it. 55% of these have no connection with the aviation industry.

Most of these volunteer "specification writers" (87%) prefer a monoplane. 51.3% want low wings. 64.5% said to make it a straight land plane.

The engine chosen by 57% is air-cooled, horizontally-opposed, with 32% preferring 6 cylinders.

68% want retractable landing gear, and 51% prefer the tricycle to the conventional two-wheel (10%). 46% specify fixed wings, although 29% are interested in folding or detachable wings for roadability. 55% want metal fuselage, and 48% metal wing covering. Cruising speeds of 115-150 mph are preferred by 59%; landing speed, 40-50 mph; cruising range, 400-600 miles.

Seating capacity, 4 persons; 25-50 lbs. baggage per person. 75% ask for wing flaps and 37% for slots. Accessories will include electric starter and generator, magneto ignition and radio receiver and transmitter.

Preferred cost is about \$2500, and 84% will use their planes for combination of business and pleasure. The summarized questionnaire gives these and other preferences in detail.



AIRCOOLED MOTORS CORP.

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*Before the
end of*

SEPTEMBER

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**OVERSEA
PARCELS
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*HOME OF THE
Hawaiian Room*

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Lexington**

CHARLES E. ROCHESTER,
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North American's Net Income for 1943 Slightly Down; Sales Double 1942's

North American Aviation, in its 1943 annual report, showed sales of the company and its subsidiaries amounting to \$509,139,649, compared with 1942 sales of \$253,226,119. Consolidated net income, after all charges, was \$6,790,323, equal to \$1.98 a share on the 3,435,033 shares of capital stock outstanding. This compared with consolidated net income of \$7,370,626, equal to \$2.15 a share, for the fiscal year ended Sept. 30, 1942.

The company and its subsidiaries delivered during the fiscal year a total of 65,197,828 pounds of airframe which constituted approximately 11% of the nation's entire airframe output during the 12-month period. During the 1943 fiscal period, the average output in pounds produced per total worker rose to 990 pounds, an increase of approximately 60% over a comparable period in 1941.

Average total floor area in use increased 252% between 1941 and 1943, and deliveries increased from 4,370 airframe pounds per 1,000 square feet in 1941 to 11,055 pounds in 1943, a total production increase of approximately 790% and an increase in area productivity of more than 150%.

During the year, the company continued production of three proven aircraft of its own design. The B-25 Mitchell bomber came from the California divi-

sion and a subsidiary in Kansas.

The P-51 Mustang was produced in the California and Texas divisions, the latter also maintaining production of AT6 and SNJ combat trainers. A second Texas division began production of B-25 Liberators. Final modification work was performed on B-25 bombers in a modification center operated by a subsidiary company in Kansas.

North American said the magnitude of the task of keeping combat aircraft abreast of technical developments was demonstrated by the fact that 554,000 engineering hours, seven times as many as were required for the original design, were expended in the California division during the 1943 fiscal year on design changes for the P-51. Although the original design of the B-25 required only 260,000 engineering hours, design changes made during the 1943 fiscal year on this airplane required a total of 432,000 engineering hours.

While North American's working force was increased more than 80% during the year, the assimilation and training problem was complicated by a generally high turn-over rate. At the end of the fiscal year, 36% of the total working force was women.

Following is a comparative balance sheet showing sales, taxes, income and dividends:

	YEAR ENDED SEPT. 30, 1942	YEAR ENDED SEPT. 30, 1943
Sales	\$253,226,119.02	\$509,139,649.89
Net income before federal taxes on income	43,153,126.31*	66,532,323.47
Federal taxes on income	35,782,500.00*	59,742,000.00
Net income	7,370,626.31	6,790,323.47
Net income percentage to sales	2.91%	1.33%
Net income per share	2.15	1.98
Amount of dividend	4,293,791.25	3,435,033.00
Dividend per share	1.25	1.00
Dividend percentage to net income	58.26%	50.59%
Amount reinvested in business	3,076,835.06	3,355,290.43

* Before deducting federal taxes related to renegotiation funds.

CONTINENTAL MOTORS CORP. has declared a dividend of fifteen cents per share on the outstanding common capital stock, payable Sept. 22 to stockholders of record at the close of business Sept. 1. Holders of the old no-par value and the old \$10 par value common capital stock, issued and dated prior to October 25, 1935, will be required to exchange their certificates.

LOCKHEED AIRCRAFT CORP. voted on August 30 an interim dividend of 50¢ per share, payable September 30 to stockholders of record September 18. The declaration is in line with Lockheed's policy of voting dividends from time to time as conditions warrant and does not establish a schedule for payments in the future, according to Robert E. Gross, president.

B-H

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PARTS**

CONTRACTORS TO ALL LEADING
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WORLD'S PREMIER AIRPLANE FABRIC

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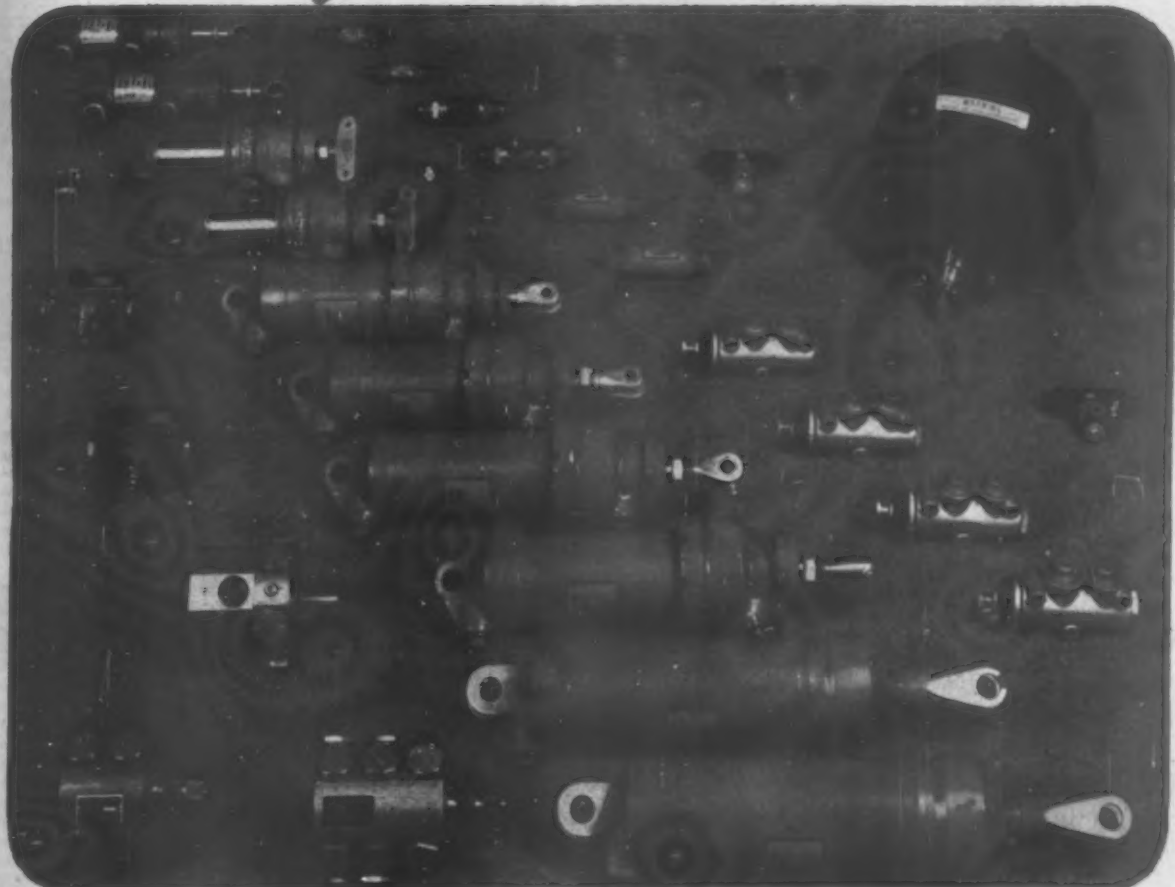
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Muscles for the Black Widow



SPIDERS have muscles, too—these are the muscles for the Black Widow.

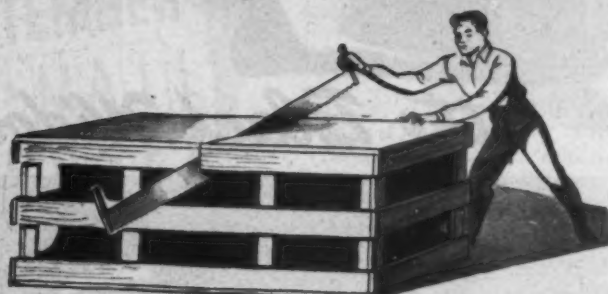
Thirty Altair hydraulic units are used in the spectacular Northrop P-61 Black Widow. Pacific Division is justly proud that the entire hydraulic system incorporates and is built around these actuating cylinders and component controls that form the muscles on the world's largest

pursuit planes designed specifically for Night Fighting. Pacific Division, Bendix Aviation Corporation, 11600 Sherman Way, North Hollywood, California.



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AAA Annual Report

Operations of All American Aviation for the year ended June 30, were the largest in the company's history resulting in net income of \$238,587.50 after charges, equivalent to 78 cents per share on the 266,490 shares of common stock outstanding after preferred stock dividend requirements. For the previous year net income was \$27,689.68 or 11 cents per share.

Current assets were \$1,198,262.22 and current liabilities \$322,892.89, as compared with \$772,258.09 and \$801,257.41 respectively, for the previous year. The company's net working capital increased \$904,368.70.

The improvement in the company's financial condition, said President Halsey R. Bazley, resulted from the sale of 218 shares of four per cent convertible non-cumulative preferred stock which yielded the company net proceeds of \$609,352.01 after underwriting, legal and registration expenses, and the increase in the company's net income for the year. Bazley reported that an initial dividend of 50 cents per share was paid on the preferred stock on March 1, 1944, and a second dividend of the same amount per share was paid September 1 to preferred stockholders of record of August 15.

The company's gross income during the year, Bazley reported, was \$4,276,725.51 of which the Air Transport Division produced \$555,895.28 and the Manufacturing and Development Division of the company \$3,720,830.33. The report disclosed that the income of the latter division had been decreased by \$801,783.43 as a result of voluntary price rebates made by the company on its war contracts.

The commercial transport division of the company, which operates the Air Pick-up system, again showed substantial growth and progress, Bazley said, air mail traffic increasing 72.7 per cent over 1943 and air express 21 per cent. He reported that during the year extensions of the company's routes to Washington, D. C., Ripley, W. Va., and Athens, Ohio, which were authorized by the Civil Aeronautics Board, and an additional schedule on the company's route between Pittsburgh and Huntingdon, W. Va., via Parkersburg, W. Va., approved by the Post Office Department, had increased the company's scheduled mileage 1,000 miles a day, making the total 4,572 miles.

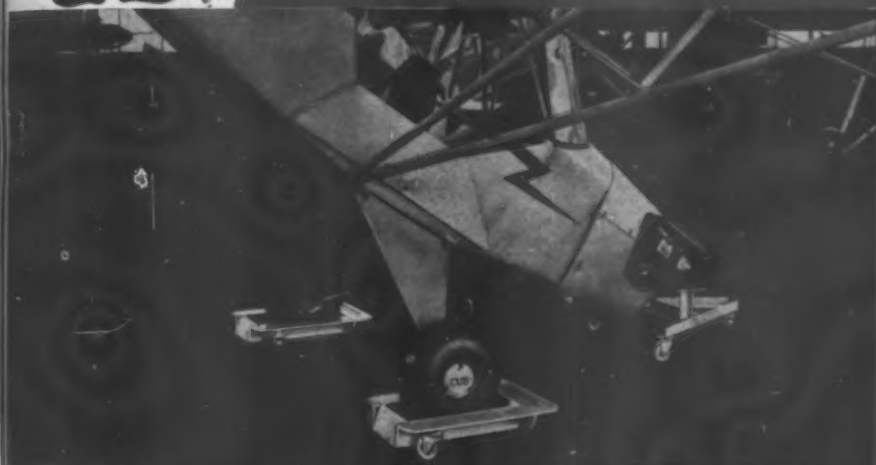
Referring to the military cargo service conducted by the company, which was terminated on July 15 along with similar services operated by other domestic airlines, Bazley said that in the two years the service was operated, All American's single-engine cargo planes flew 1,738,388 miles and carried 2,461,000 pounds of cargo without serious loss or damage to equipment or cargo.

Reporting on the company's future plans, Bazley said:

"It is apparent that the next step in the expansion of the Air Transport Division is in the development of combination passenger and air mail pick-up service. Investigations indicate that such service may produce increased revenues from some of our existing routes. Applications have been filed requesting authority to render such service over five new routes which were laid out with particular consideration of the passenger potential."



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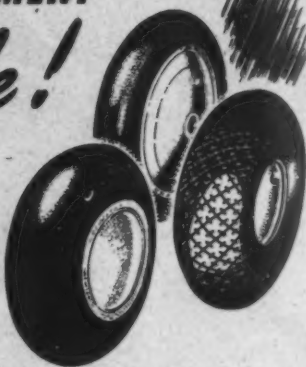
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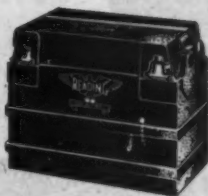
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Kinkead Elected President Of Aero Club of Washington

Robert Kinkead, member of the Washington staff of Boeing Aircraft Co., was elected president of the Aero Club of Washington, D.C.



Kinkead

Washington, D.C., oldest aviation club in the U.S. at the organization's Sept. 1 meeting.

Other officers elected include Arthur Hyde, manager of Congressional Airplane; first vice president J. Parker Van Zandt, Brookings Institution; second vice president John E. P. Morgan, manager of the Personal Aircraft Council, Aeronautical Chamber of Commerce, third vice president Karl Hughes, district traffic manager for United Air Lines, secretary, and Thomas E. Lindsey, business manager of American Aviation Associates, treasurer.

Trustees elected were Wayne W. Parrish, editor and publisher, American Aviation publications; Herbert Gookins, Chesapeake & Potomac Telephone Co.; Robert Wilson, vice president-secretary, Pennsylvania-Central Airlines, and Charles Stanton, Administrator of Civil Aeronautics.

A tour of the nation's aircraft manufacturing plants will be made by Rep. Albert J. Engel (R., Mich.), "the man Congressional investigator" some time after election and before the Congress reconvenes Jan. 3. Engel expects to make a survey of plane production costs and report his findings to Congress.

Rep. Engel to Tour Nation's Plane Manufacturing Plants

This will represent the fourth independent study of war costs that Engel has made as a member of the War Dept. subcommittee of the Appropriations Committee. He reported to Congress that the Army had wasted \$250,000,000 in the construction of Army cantonments, he found much to commend and much to condemn in his report on production costs in 47 war plants and he gave Army Ordnance high praise for its work in power production following a tour of the power plants of the country.

With respect to his contemplated tour of aircraft factories, Engel told *American Aviation*: "This is in no sense an investigation based on a foregone conclusion that there is something wrong in the aircraft industry. It rather is to be an objective study and survey so that Congress may know just how public funds have been expended in giving this country the greatest air force in the world."

Willow Run Conversion Seen

The War Production Board is studying the possibility of moving additional aircraft work into the Ford Willow Run plant, where production of B-24 Liberators is being reduced, says a WPB announcement.



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Engineers in these plants from coast to coast worked simultaneously in designing parts that would meet the requirements set. Each production department set up a time table of the dates on which it would make first and subsequent deliveries. And B-29 progressed by the clock.

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Hughes Gives Perelle Managerial Duties In Two Companies

Delegation of managerial duties and organization of Hughes Aircraft and Hughes Tool Co., were outlined by Howard R. Hughes, president, at a press conference in Los Angeles recently, when Hughes introduced Charles W. Perelle, veteran manufacturing expert, who recently joined the Hughes organization.

Perelle will supervise production and business phases as a director and vice president in charge of manufacturing for Hughes Tool and as general manager of the aircraft plant. Perelle resigned as vice president in charge of manufacturing of Consolidated Vultee Aircraft Corp., San Diego, to accept the position.

Hughes told newsmen that he himself would concentrate entirely on engineering and development, a field which has been his chief interest for many years. To many in the aviation industry the setup recalls the organization achieved by Jack Northrop, who devotes his time to development work while production is carried out by LaMotte T. Cohn.

In reply to reporters' questions, Hughes made clear these points: (1) He is interested in concentrating solely on war production. The organization at no time in the future contemplates going into quantity production of "fiver planes,"



Hughes (left) and Perelle

despite the fact that Perelle is noted as a master in large-scale aircraft production.

(2) The cargo plane being built by Hughes for the government will be under Perelle's jurisdiction. Construction on the aircraft is now three-fourths completed, and it should be ready for flight tests shortly.

(3) War production for the Hughes companies covers many volume outlets. In Los Angeles these include quantity production of fuselages and wings for a well-known military plane; also flexible ammunition feed chutes and power ammunition booster drives, machine gun accessories that speed up the rate of fire. At the Houston, Tex., plant, the company manufactures oil well supplies, aircraft landing gear struts, and large calibre artillery cannon.

Perelle will headquarter at Houston and will commute between there and Los Angeles.

CAA Takes Charge of Aviation Gas Rationing Nov. 1

Arrangements for the transfer of responsibility for the rationing of aviation gasoline from the Office of Price Administration to the Civil Aeronautics Administration were about completed as this issue went to press. The transfer is to be effective Nov. 1.

Under the plan agreed upon, CAA will follow the procedure successfully used by the Petroleum Administration for War on higher octane aviation gasoline which does not involve coupon rationing. Allotments are to be made to retail vendors and distributed by them after Nov. 1 in accordance with standards established by CAA. Supervision will be by inspectors of CAA's Safety Regulation Service, whose normal duties require them to visit all airports regularly.

Commenting on the pending transfer, William A. M. Burden, Assistant Secretary of Commerce, said: "Since the CAA is heavily engaged in work for the armed services and in helping to maintain domestic and international air carrier operations, it is not anxious to assume additional responsibilities, but feels it has an obligation under the Civil Aeronautics Act of 1938 to foster the development of air commerce."

Acting in promoting the transfer were The National Aeronautic Association, the National Aviation Trades Association, the Aeronautical Chamber of Commerce and State Aviation officials and allied aviation organizations.

"The Civil Aeronautics Administration," Burden further stated, "is aware of the necessity for more careful distribution of gasoline for civil airplanes and will attempt to secure the maximum use of civil aviation facilities with the minimum consumption of aviation gasoline."

The Civil Aeronautics Administration will immediately issue a regulation that no aviation gasoline can be delivered by any vendor except into the tank of an aircraft or aircraft-engine test stand upon surrender of ration coupons issued by the Office of Price Administration, who will continue coupon issuance through its local ration boards until November 1.

The regulation will also govern the use of aviation gasoline by the pilot and plane owner. The uses permitted will include such essential flying as pilot training; personnel and cargo transportation, by charter or otherwise; maintenance of pilot skill and aircraft usefulness; and commercial flying, such as crop dusting, aerial seeding, soil conservation, forest patrol, power line and pipe line inspection, police missions and similar essential activities which do not include barnstorming, sightseeing trips, and pleasure flying.

Detailed operating procedure incorporating the interim regulations mentioned immediately above will be announced shortly by the Civil Aeronautics Administration, becoming effective November 1, 1944. The Petroleum Administration for War is cooperating with the Civil Aeronautics Administration in its assumption of these new conservation duties.



Spare Experts at Lockheed

Representatives of eastern aircraft manufacturers recently visited Lockheed Aircraft Corporation's plants to study the company's methods of manufacturing component spare parts. Those on the tour were members of the Spares Advisory Committee of the Aircraft War Production Council. Front row, left to right: H. A. Harter, Assistant General Manager of AWPC, Eastern Division; Frank Kriz, Chief Spares Project Engineer, Glenn L. Martin Co.; T. G. Haertel, Manager of the Contracts Division, Bell Aircraft Corp.; G. A. Muster, Assistant Sectional Engineer, Fisher Body Aircraft Division; B. J. Lurie, Air Service Command Liaison Representative, Republic Aviation; Edward Riley, Manager Military Parts Replacement Division, AWPC, Central Division; and W. V. Gillette, J. R. Bachman, and Seymour Knee, all of Lockheed. Back row: Maj. A. D. Bowman, AAF Eastern Procurement District; R. P. Laughne, Supervisor of Spares Division, Ford Motor Car Co., Willow Run Bomber Plant; Edward Wright, Spare Parts Manager, Chance-Vought Aircraft; S. D. Darley, Contract Spares Supervisor, Curtiss-Wright Aircraft; and J. T. Slade, Manager Spares Division, Military Contracts Department, Republic Aviation.



... AND THE GLIDERS LED THE WAY

They said it would come on a night when the tide was right—and that's the way it was.

Some guessed that it would be Denmark, while others predicted it would be the Low Countries or straight across the Channel. But those who guessed that it would be Normandy were right because that's the way it was.

They claimed that the planes would be like swarms of locusts in the sky and the ships so numerous that a man would be able to walk from shore to shore without once getting his feet wet—and that's the way it was.

And leading the way, they said, would be the paratroopers and the *glider-borne infantrymen, disrupting communications deep within the enemy's lines hours before the

first assault wave hit the beaches. That's how they said it would be—and that's the way it was.

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Waco WACO AIRPLANES

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Moseley Buys Grand Central Air Terminal, Glendale, Cal.

Grand Central Air Terminal, one of the oldest and largest commercial and military airports in southern California, has been purchased by Cal-Aero Academy as the site for present and postwar activities, Maj. C. C. Moseley is president of Cal-Aero.

Acquired from the Curtiss-Wright Corp. of New York, the airport will continue as the headquarters of Cal-Aero and Mira Loma flight academies as well as of Aircraft Industries Co., engine and aircraft service concern. The airport also is the site of the Curtiss-Wright Technical Institute, which was included in the purchase.

Maj. Moseley has operated the air terminal since 1929, first as manager for Curtiss-Wright and since 1933 as lessee.

Postwar plans for the airport contemplate feeder line operations as the terminus for various lines, private and commercial flying, overhaul and repair of engines and planes, and aviation manufacturing activities.

New Lockheed Facility

Lockheed Aircraft Corp. announces the setting up of an \$800,000 factory facility at Burbank, Cal., for the manufacture of component spare parts for inactive airplane models, including Lodestars, Electras, Model 12's and others in commercial service. Production is expected to reach its peak within 30 days under the supervision of Louis J. Bauer, a veteran in the aircraft industry.

Wings of Yesterday

Twenty-five Years Ago

Roland Rohlfs climbed 34,910 ft. in a Curtiss Wasp triplane, equipped with a Curtiss K-12, 400 hp motor. For purposes of international comparison the barograph was read without air temperature corrections, thus conforming with European practice. After calibration by the Bureau of Standards, Rohlfs' barograph showed a minimum corrected altitude of 32,450 ft. These readings gave Rohlfs the official record in both corrected and uncorrected classes. (Sept. 18, 1919).

A 12-passenger Glenn L. Martin army transport flew from Cleveland to Dayton at 117 mph. (Sept. 17, 1919).

The Swedish aviator, Rodehm, flying a 260 hp Swedish plane, made a non-stop flight from Ystad to Haparanda, 1,420 kilometers, in 7½ hours. (Sept. 21, 1919).

Fifteen Years Ago

Pan American Airways opened mail service between Miami and Paramaribo, Dutch Guiana. (Sept. 20, 1929).

New England Regional Airport Conference, sponsored by the Aeronautical

Chamber of Commerce, was held at Boston. (Sept. 23, 1929).

Lt. James H. Doolittle made the first public demonstration of blind flying when he took off, made a flight of 15 miles, and returned to his starting point, flying a Consolidated (Wright-motored) plane with an enclosed cockpit. (Sept. 24, 1929).

NAA Recognizes Two P-51

Flights as Official Records

The National Aeronautic Association on September 2nd recognized two new national records for coast-to-coast flight. Both flights were made May 12 by AAF pilots in North American Aviation P-51 Mustang fighters. They spanned the continent from west to east in a little more than six and one-half hours.

Col. C. A. Peterson flew from Los Angeles Municipal Airport to La Guardia Field, with a stop for refueling at Kansas City, in 6 hours, 31 minutes, 30 seconds. Lt. Col. Jack Carter flew from Los Angeles Municipal Airport to La Guardia Field non-stop in 6 hours, 39 minutes, 30 seconds.

The two planes took off from Los Angeles within a minute of each other. Lt. Col. Carter's average speed was 370.062 mph, and that of Col. Peterson, 378.544 mph. The previous national west-to-east transcontinental record was held by Howard Hughes, who flew a Hughes Special Monoplane coast-to-coast in 7 hours, 28 minutes, and 25 seconds on Jan. 19, 1937. Hughes' average speed was 327.151.

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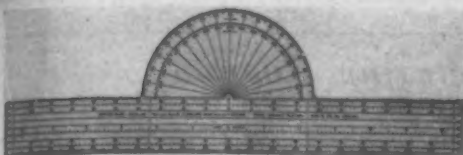
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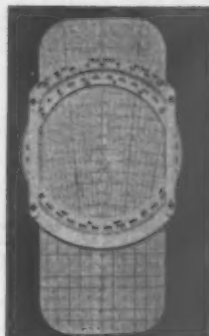
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Aerosphere 88	
AI-Research Manufacturing Company 10	
Air Transport Asso., "Air Express" 82	
Aircooled Motors Corporation 79	
Aircraft & Diesel Equipment Corp. 66	
American Phenolic Corporation 85	
Aviation Associates 90	
B-H Aircraft Company 80	
Belden Manufacturing Company 73	
Bell Aircraft Corporation 10-B	
Bendix Aviation Corporation	
Pacific Division 81	
Boots Aircraft Nut Corporation 34-B	
Borg-Warner Corporation 16	
Cardox Corporation 69	
Chance Vought Aircraft 57	
Cox & Stevens Aircraft Corporation 74	
Curtiss-Wright Corporation	
Airplane Division 10-A	
Curtiss-Wright Technical Institute 53	
Delta Air Lines 41	
Douglas Aircraft Company, Inc. 33	
Edo Aircraft Corporation 55	
Evans Products 12	
Flightex Corporation 80	
Foots Bros. Gear and Machine Corp. 3	
General Tire and Rubber Company 7	
Grimes Mfg. Company 67	
Gulf Oil Corporation 31	
Hayes Industries, Inc. 5	
Irving Air Chute Company, Inc. 78	
Jacobs Aircraft Engine Company 26-B	
Walter Kidde & Company, Inc. 4	
Hotel Lexington, Inc. 80	
Lockheed Aircraft Corp. 46-A-B-C-D	
Logan Engineering Company 77	
Macwhite Company 74	
P. R. Mallory & Co., Inc. 59	
Glenn L. Martin Company 15	
McDonnell Aircraft Corporation 2	
Northrop Aircraft, Inc. 37	
Otto Aviation Corporation 84	
Owens-Corning Fiberglas Corp. 63	
Pan American Airways, Inc. 28	
Phillips Petroleum Company 8	
John A. Roebling's Sons Co. 71	
Rotol, Inc. 36	
Ryan Aeronautical Company 61	
Scott Aviation Corporation 83	
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Sinclair Refining Company 23	
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Standard Parachute Corporation 50	
United Air Lines 25	
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Waco Aircraft Company 87	
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Weems System of Navigation 89	
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Western Electric Company, Inc. 75	
Westinghouse Elec. & Mfg. Co. 43	
Whiting Corporation 39	
Wilcox Electric Company 65	
Wittek Manufacturing Company 6	
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Manufacturing Roundup

BENDIX RADIO DIVISION, Bendix Aviation Corp., Baltimore, will enter the field of home radio set manufacture as soon as the military situation permits, according to Ernest R. Breech, president. Breech said the home radio program will mark Bendix Aviation Corporation's first entry into the consumer manufacturing field, in addition to its variety of scientific equipment for aircraft, automotive, marine and other industries. Home radios will be manufactured at the company's Baltimore plants.

SPERRY GYROSCOPE CO., has assured its 25,000 employees that not only will Sperry have all the work it can handle for another year, but is in urgent need of 4,000 additional employees. End of the war in Europe will have little effect upon the company, since materials being manufactured by Sperry are for use in the Pacific, said R. E. Gillmor, president.

GLENN L. MARTIN CO., has received Financial World's award for the best annual report of the aircraft manufacturing industry for 1943. Runner-up was Consolidated Vultee Aircraft Corp.

CONSAIRWAY, Consolidated Vultee Aircraft Corporation's division in foreign service for the Air Transport Command, recently completed moving its western terminal from Australia to New Guinea. The 1500-mile move was made in a two-day period without disrupting the organization's flying schedule.

GENERAL CONTROLS, Glendale, Calif., manufacturers of automatic pressure, temperature, and flow controls, announces that

its New York factory branch has occupied new quarters in the Architects Building, 10 Park Ave. The Cleveland Branch has moved to new quarters at 3224 Euclid Ave., Cleveland, O.

DEMCO TOOL SERVICE, INC., 5236 Fernando Rd., Glendale, Calif., has been organized by a group of Detroit machine tool and cutting tool manufacturers. Russell W. Luzius, formerly tool engineer with General Motors Corp., heads the new organization.

FORD MOTOR CO. is ready to buy the 450,000 Willow Run bomber plant from the Defense Plants Corp. and convert it into "the world's largest farm machinery factory," the company reports. Completion of the transaction depends on when the Willow Run facilities are designated surplus by DPC on recommendation of the Army Forces.

SQUARE D COMPANY announces the opening of a new manufacturing plant and warehouse at 2310 Ranier Ave., Seattle, with Walter H. Bodle in charge.

DOUGLAS AIRCRAFT CO. opened a \$100,000 cafeteria building at its Santa Monica plant August 28, accommodating 50 persons at a single sitting. The building has 15,000 square feet of floor space. The lunch periods are provided on each of the shifts to accommodate 30,000 employees.

WRIGHT AERONAUTICAL CORPORATION's Wood-Ridge, N. J., plant, where 18 clone 18's are built for B-29 Superfortresses, topped all previous monthly records for production during August, rising "into the higher hundred".

Classified

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WANTED. VOL. 1 and 2 station to station parts of C.A.B. September, 1940 Airline Trade Survey. Also one copy each November, 1940, September 1940, and March, 1941 Official Guide of the Airways. State price and conditions. Box 389, American Aviation, American Building, Washington 4, D. C.

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